ATARI COMPUTER ENTHUSIASTS [N.S.W.]

A.C.E. (N.S.W.)
G.P.O. BOX 4514,
SYDNEY. 2001.
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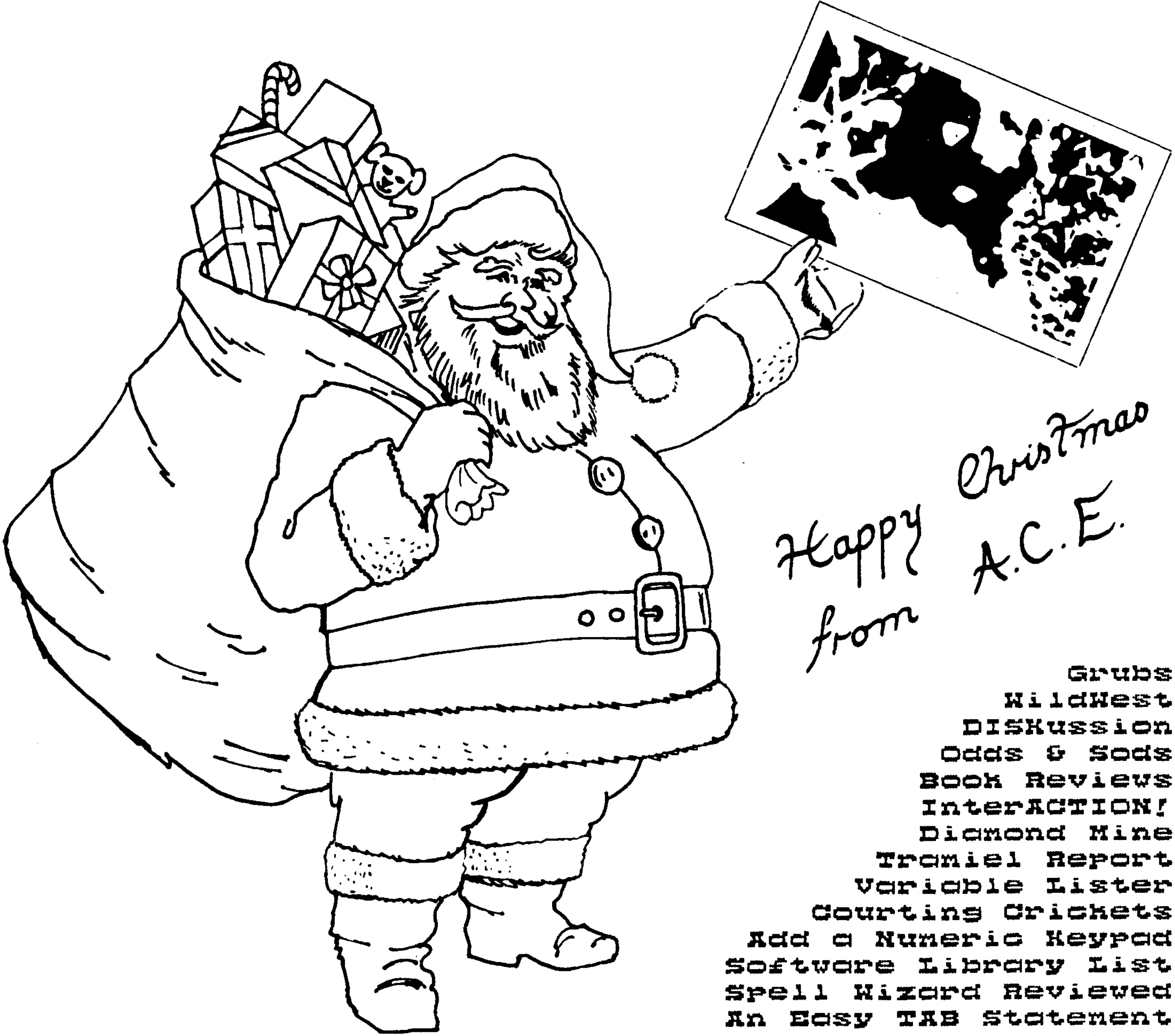

Happy Christmas from A.C.E.

Grubs
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Atari Computer Enthusiasts (New South Wales)

INFORMATION December 1984

Atari Computer Enthusiasts (N.S.W.) is an independent, non-profit computer users' group loosely affiliated with Atari Computer Enthusiasts in the U.S.A. While we are recognized by ?????????????, as the Official Atari Users' Group in N.S.W., we have no connections with them or the ATARI Corporation. Our aims include promotion of the various ATARI Home Computer Systems, instructing both beginners and advanced users in programming techniques, exchanging public domain software, hints, tips and ideas amongst members and generally enjoying ourselves.

The Club cannot condone software piracy.

COMMITTEE MEMBERS	Home Phone #
Barry Williams (President)	(02)452 2229
Tony Reeve (Vice President)	
Alex Kwok (Secretary/Treasurer)	(02)661 3377
Jamie Athas (Meetings Organizer)	(02)349 7365
Ken Shiu (Editor)	(02)534 2120
Roberto Romano (Assistant Editor)	(02)327 4898
Jeff Maddock (Bulletin Board)	(02)568 2990
Peter Dickeson (Librarian)	(02) 80 2505
Garry Francis (Software Exchange)	(02)789 1397

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SYDNEY NSW 2001

MEMBERSHIP FEES/RENEWALS

$30 for the first year and $15 (Renewal Fee) thereafter (or $20 and $10 respectively for students under 18 and still at school). Overseas air-mail subscriptions are $10(Aust) extra per year.

The number in the top right hand corner of your mailing label indicates the issue No. with which your subscription expires. You should renew immediately if the number is the same as the issue you receive.

S.I.G.s -SPECIAL INTEREST GROUPS

Phone these contacts or write to the Editor with your suggestions, high scores, reviews, hints or tips.

GROUP	CONTACT	Home Phone #
ACTION!:	Ken Scalley	(02)624 4561
ADVENTURES:	Garry Francis	(02)789 1397
ARCADE GAMES:	Ken Shiu	(02)534 2120
FORTH:	John Mattes	(02) 94 5463
HARDWARE:	Jamie Athas	(02)349 7365
MAGAZINE PROGRAMS:	Garry Francis	(02)789 1397

BULLETIN BOARD -Phone(02)568 2990

Systems Operator (SYSOP) is Jeff Maddock. From January the system will be available between 9 P.M. and 12 P.M., Mondays to Saturdays only. Access requires a personal password which is available from SYSOP for $3 per year. We recommend you use "AMPLUS3.UDL" terminal software. PUBLIC DOMAIN SOFTWARE ONLY!

ARTICLE/PROGRAM SUBMISSIONS

Articles for Inside Info should reach the editor as early as possible and at least ONE MONTH ahead of the release date. All programs or articles submitted to the Club on disk should be in single density, DOS II format. For every program you write and have accepted by the Software Exchange (or articles printed in INSIDE INFO) you will be entitled to one Software Exchange disk or tape at half price.

INSIDE INFO

This is our bi-monthly users' group magazine.

BACK ISSUES: $2.50 each for issues in stock. $4 each if out of stock. Mailing costs are extra.

EXCHANGE SUBSCRIPTIONS: We are keen to exchange magazines with other Atari Users' Groups.

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ADVERTISING: Full page $50, Half page $30, Quarter page $20. Members' personal adds are free.

SOFTWARE EXCHANGE

A full list of available titles has been printed in Inside Info #16 (December 1984).

DISKS: $10 each. CASSETTES: $8 each.

Non-members add 10%. Include an extra $1.50 to cover surface postage within Australia.

Overseas members should write for costs first. We are keen to exchange software with other user's groups.

BLANK MEDIA: Prices are for lots of 10 and may change without notice. An extra $1.50 should be included to cover postage within Australia. Contact appropriate Software exchange for details.

DISKS: $27 (SSDD Nashua -in plastic box) CASSETTES: $9

DISK BOXES: $25 -hold 90 disks with lockable lid. Non-members price is $30. Add $3.35 for postage within N.S.W. and $5.50 elsewhere within Australia.

REFERENCE LIBRARY

Some books are brought to meetings, others are available only by arrangement with the librarian. Loans are made only to people researching articles or talks for the Club.

MEMBER'S DISCOUNTS

You may be asked to present your membership card before being given any discounts!

COMPUTERWAVE [5% -cash only]:-
325 George St, Sydney. (near Wynyard) Ph.(02) 29 1631

THE COMPUTER SPOT [5% credit, 10% cash]:-
Shop C4, MLC Centre, Martin Place. Ph.(02)235 2971
Eastgate Centre, Bondi Junction. Ph.(02)387 5208
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COVER CARE [25% off computer dust covers]
P.O. Box 719, Chatswood, N.S.W. 2067. Ph.(02)498 5631

MEETING DETAILS

Meetings are held at 6.15 P.M. on the first Monday of the month or the second Monday if it clashes with a public (or Bank) holiday in the Amenities Room, 23rd Floor, MLC Building, Martin Place, Sydney.

NOTE: You MUST sign in with the guard in the foyer, visitors must be spoken for by a member and you can t enter the building after 6.30 P.M.

MEETING DATES FOR 1985

*4th February #4th March *1st April
#6th May *3rd June #1st July
*12th August #2nd September *14th October
#4th November *2nd December

* indicates release dates for INSIDE INFO.

# indicates closing dates for article submissions.

FROM THE PRESIDENT

PRESIDENTS ANNUAL REPORT

From Barry Williams

During 1984 we have seen two committee members go overseas, but still managed to restucture our group so that in the future we will continue to move in a direction which should suit every member or affiliated group of A.C.E. (N.S.W.).

PRESIDENT

Tony Reeve (our former President) has moved to Arizona in the U.S.A. to continue his work for Honeywell. But when he returns later in the new year he will again take up a position on the committee of A.C.E. as Vice President. It is my pleasant duty to wish Tony, his wife Jane, and family a happy stay while in the U.S.A. -Well done Tony!

Since Tony left I've taken the reins as President and have been elected to that position for 1985.

SECRETARY/TREASURER

There was also our former Secretary/Treasurer, Tony Dinallo who decided that the Greek Islands looked very inviting and left sydney for an extended holiday. I would like to thank Tony for the way in which he carried out his duties as Secretary/Treasurer. I would also like to thank Alex Kwok who took over as the Club's Secretary/Treasurer for the remainder of the year and has done a fine job. Alex remains on as Secretary/Treasurer during 1985, so I wish him every success on the committee and good luck on keeping the Club "out of the red."

INSIDE INFO

The committee has done a tremendous amount of work in many areas through the year and I'm sure that you appreciate, as do I, the quality of articles which have been sent to our editor during the past year -did you benefit from them? Well our rising membership should answer that question for you! To all members who have contributed articles and games, I would like to thank them on behalf of our committee.

EDITOR

At our 1983 Annual General Meeting Chris Fitzgerald agreed(??) to stand in as (Temporary) Editor until a permanent one could be found. Our thanks go to Chris for getting Inside Info out single handedly -"Yee Gods", Chris won't be doing the job next year! Rather, Ken Shiu (pronounced "shoe") will be our Editor. Please show him your support and encouragement through the year.

The Editor's job is being restructured so that the production of 'Inside Info' will involve an Editor and Assistant Editor, along with a number of Subies to handle overseas newsletters and local correspondence. Roberto Romano left his position as Bulletin Board Operator to take on the job of Assistant Editor.

BULLETIN BOARD SERVICE

It is to Roberto that we owe our thanks for bringing the Bulletin Board Service on line -another milestone (Kilo) in the history of ACE (NSW).

Dutifully Roberto has manipulated the software to the point where our newly affiliated group, 'Western Atari Users , will be using our software to operate their own bulletin board. Our thanks to Roberto for the great work he has done!

To our retiring Librarian Jeff Maddock, who not only has put a lot of time into our books, but has also always been keen to help out with school exhibitions, I wish to express thanks. Jeff is very versatile in that he is just as at home with programs as he is with hardware, so if you have a question please ring or put it to him at the meetings, thanks Jeff. Jeff will now be in charge of the Bulletin Board Service from January 1985 (see information sheet for times). Programs are on line awaiting you members, so if you haven't yet bought a modem get out there and buy one! We will be endeavouring to upgrade the service and equipment so that a larger number of programs will become available through the 'board'. If you want terminal software to control modems you should talk to Jeff. The club uses an 'Avtek' modem designed and built in Australia.

SOFTWARE EXCHANGE

The Software Library is to be restructured with the Disk and Cassette exchanges being merged under the control of Garry Francis. During the past year Brian Simmons has managed as Disk Software Librarian with Peter Dickeson as Cassette Librarian. Together they have worked to keep the software library, formulate and categorise programs in difficult areas such as Education -but both having been teachers are well versed in this type of supervision. I would like to wish both of you all the best for the future. Peter Dickeson will be continuing his untiring support of the Club by running the Club's library.

MEETINGS ORGANISER

Since inception the Club's meetings have been co-ordinated by our 'Meetings Organiser', Peter Bamford. Peter has organised a constant flow of information and demonstrations to kept our meetings interesting and informative while keeping a tight rein on the controls. Peter has now retired as Meetings Organizer and we wish him all the best in the new year. The Club's new meetings organizer is Jamie Athas.

MONTHLY MEETINGS

During the year the monthly meetings had a few changes of venue through the year. We would like to thank Computerwave for showing their support by providing their premises for our meetings at the beginning of the year. We then returned to the premises of the 'Overseas Telecommunications Commission' in Martin Place and as of the November meeting we started meeting in a larger room on the 23rd floor of the MLC Building but are still using OTC premises -our thanks go to OTC's Chief Administrator and staff along one of our Club members, John Mattes, for allowing us the use of their establishment. Also, please note that visitors must be accompanied by a member or else call for member in the foyer of the building.

FUTURETRONICS

Once again we wish to express our appreciation to 'Futuretronics' for the loan of their equipment for the Bulletin Board Service. During this year we had discussions with Peter Carr (N.S.W. Manager) and David Glenmere (Sales Manager) and agreement was reached in a number of areas. One of these areas was to allow all other N.S.W. groups to be affiliated with A.C.E. (N.S.W.). Unfortunately all of this is now up in the air with the current situation of Futuretronics -see the Editorial elsewhere in this issue of Inside Info.

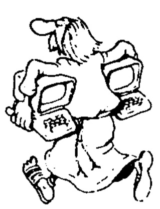
SCHOOLS

To schools and teachers in New South Wales the 'Atari 800 XL' has been a wise choice as one of five computers selected for inclusion in the State Government schools contract. If our Club mailing list is any indication, many schools must be getting into the Atari.

While on the subject of schools, Bruce Fairhall (Principal of Blaney Public School) is organising a one day tutorial lecture to be held at Blaney on Saturday the 30th of March 30th 1985. Topics covered we be "Introduction to Basic" and "Advanced Basic With Graphics for the Atari 800XL". A four man team will be on hand from A.C.E. (N.S.W.) to conduct the lectures and Workshop studies. So all you teachers, from BROKEN HILL to LITHGOW get in touch with Bruce.

In foresight 1984 draws to a close and we all look forward to the future and all the goodies which it will bring to us. On behalf of the committee I would like to wish all the members and the industry as a whole, a very Merry Christmas and a prosperous New Year.

yours in 'Atari'
Barry Williams



EDITORIAL

As you will have already noticed, this issue is a little larger than usual -read and enjoy!

This is my last issue of Inside Info. I can't say that it's been an easy year for me, the magazine has taken up most of my time outside of working hours -I've had to put aside a lot of personal projects and my friends are wondering if I really do still exist! I've never really been very heavily committed to my Atari and I'm not really all that interested in the politics and history of the machine, but I've tried to do my best as a TEMPORARY Editor at keeping you informed.

Personally, I consider that there are far more important things in life to commit yourself to and I feel that I should be the Atari's master -not it mine! I'll be enjoying my free time and have plenty to keep me busy, it'll be great to be able to relax and not have to meet deadlines all the time. Hopefully the new set-up of having two Editors will lighten the work-load and make the job a little easier. There are details on how you should submit articles on page 25 of this issue -please read them and do your best to write for you fellow Atarians.

At this time I'd like to offer my thanks to those people who have helped by writing for Inside Info, especially to Ken Scalley for being a fairly consistent contributor by writing 'DISKussion' and 'InterACTION!'. Ken, by the way, was the winner of the $100 prizemoney for the best article in Inside Info (issues 7 to 12) -good on ya Ken!!

Well, if you've looked over the 'Information Sheet' on page 2 you're probably wondering what all the question marks are where there was once the name of Futuretronics. Originally we found out that Futuretronics had closed their New South Wales office and left us to answer all their enquiries without even telling us -a great leap backwards when we were supposedly just recognized as the States' official users' group. I should add here that the feelings I'm expressing are my own -I feel angry that they didn't tell us and had us answering a lot of the enquiries that they should have been answering. Would you believe that one K-Mart store actually sent its stock order to the Club?!?!?! I haven't been too impressed by Futuretronics' performance in the past but (silly me) I really believed they were going to turn over a new leaf.

A few weeks after the New South Wales office closed we heard on the radio about Futuretronics being in the hands of receivers. From what we know, Futuretronics has some big bills to pay but all products will be available for Christmas.

Once all bills are settled the company may be taken over by a large public company like Myers or Coles. A week before the announcement was made the President of Atari was said to be visiting -but just who that was and why he was here is not known, perhaps Atari itself will move into Australia (hope, hope!). At any rate, my understanding is that Futuretronics will probably remain but as part of a larger company and with a new name -certainly, I don't think the old name commands any respect. My experience is that they generally give you wrong answers, which is worse than no answer -I don't like wasting time on the wrong track!

Anyway, we can only hope that we won't be treated as off-handedly as we have been in the past. I'd reckon that we've given greater benefit, as a Club, to Futuretronics than they have ever given us -they seemed intent on making more work for us and let us support the Atari because they wouldn't!

After making this scathing attack on Futuretronics I'd like to take this opportunity to wish all of our members a HAPPY CHRISTMAS and a GREAT NEW YEAR.

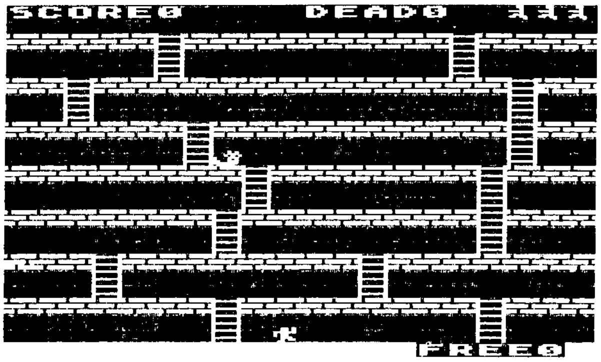
Chris Fitzgerald.

Grubs

by Sydney Brown.

[Program reprinted from Eugene A.C.E. Newsletter, October 1982. Article by Garry Francis.]

Some years ago, a very original game called Space Panic appeared in the arcades. In Space Panic, you were represented by a little man with a shovel who was constantly pursued by aliens. You could avoid the aliens by running around or climbing up and down ladders. Or better still, you could dig holes in the brick walkways for the aliens to fall into. Once an alien had fallen into a hole, you could come back and bonk him on the head with your shovel. Space Panic did not take off like Space Invaders or Pac-man, but it did have a healthy following.



Around the same time, a game called Apple Panic was released by Broderbund for the Apple II Computer (In fact, it may have even been released before Space Panic, but I'm not sure.) The aliens were replaced by apples and it proved to be a big hit amongst Apple users.

A year or two later, Apple Panic was translated for the Atari. Now Atari owners could have a great time bonking apples on the head! Yeah! Unfortunately, the Atari version was poorly implemented and wasn't a patch on the originals.

Sydney Brown's Grubs is very similar in concept to Space Panic and Apple Panic, but there are some important differences. For example, the apples are replaced by grubs, the grubs can escape from the screen (which is exactly what you DON'T want them to do) and IT'S FREE!

How To Play:

After going through the instructions and the score table, the first screen is drawn. You should see seven brick walkways at different levels with two ladders joining each level. The ladders are in random positions so that each game is different. Grubs will come out from the top levels and work their way to the bottom of the screen by crawling along the walkways and down the ladders. Their aim is to get to the bottom level and escape. You lose 5 points every time a grub escapes. Once 10 grubs have escaped, they create a community, multiply and take over the earth. (It's true! It says so in the instructions!) Your job is to stop them escaping.

You start at the bottom of the screen and can move along the walkways or climb ladders by using a joystick plugged into Port 1. However, if you run into a grub, you will be zapped. This causes you to lose one of your 4 lives and you get sent back to the bottom of the screen.

The only way to kill the grubs is to bury them in a hole. You can dig a hole on any of the brick walkways by pressing the fire button. If a grub falls into a hole, you can return and bury him by again pressing the fire button. This earns you from 0 to 20 points depending on the level. The higher the level, the more the points, so bury the grubs as early as you can. However, a grub doesn't stay trapped for very long. If you don't bury it before it escapes, you lose 5 points.

Incidentally, you can fall through the holes yourself, so be careful. This may be useful if you want to use it as a shortcut, otherwise you can fill the hole in by pressing the fire button.

The game finishes when you've lost all 4 lives or when 10 grubs escape. Good luck. You'll need it!

```
0 REM ################################
1 REM #            GRUBS             #
2 REM #       by Sydney Brown        #
3 REM #       Reprinted from         #
4 REM #  Eugene A.C.E. Newsletter    #
5 REM #         October 1982         #
6 REM # Published by Atari Computer #
7 REM #    Enthusiasts (N.S.W.)      #
8 REM #        December 1984         #
9 REM ################################
10 ? CHR$(125):DIM C(11),D(11),H(11),V
(11),B(11),D(11):POKE 710,16:POKE 709,
14:POKE 752,1
11 ? ,:? "    G R U B S ":? "THE GRUBS
 ARE TRYING TO ESCAPE TO THE":? "SAFET
Y OF THE SUBWAYS TO MULTIPLY AND"
12 ? "TAKE OVER THE EARTH.":? "IT TAKE
S TEN GRUBS TO MAKE A COMMUNITY";:? "S
O YOU MUST TRY TO DESTROY THEM BEFORE"
;
13 ? "TEN ESCAPE.":? "YOU DESTROY THEM
 BY DIGGING A HOLE":? "TO TRAP THEM AN
D THEN BURYING THEM."
14 ? :? "USE JOYSTICK 1 TO CONTROL THE
 MAN.":? "YOU CAN CLIMB UP OR DOWN A L
ADDER OR":? "JUMP DOWN THROUGH A HOLE.
"
15 ? "PRESS THE RED BUTTON TO DIG OR B
URY.":? "IF THERE IS A HOLE HE WILL BU
RY IF NOT";:? "THEN HE WILL DIG."
16 ? "THE GRUBS DON'T STAY TRAPPED FOR
 LONG":? "AND AN ESCAPED GRUB COSTS YO
U POINTS."
17 ? "WATCH OUT AS THEY CAN DESTROY YO
U TOO "
18 ? :POKE 53279,0
19 ? "PRESS START BUTTON FOR SCORE TAB
LE";
20 IF PEEK(53279)<>6 THEN 20
21 POKE 106,PEEK(106)-2
22 GRAPHICS 17:POKE 712,16:POKE 708,30
:POKE 709,140:POKE 710,188:? #6;"
G R U B S ":A=PEEK(106)*256
23 ? #6:? #6:? #6;"GRUB ON TOP LEVEL 2
0          2ND LEVEL 15          3RD LEVEL
 10          4TH LEVEL  5";
24 ? #6;"           5TH LEVEL  1         6
TH LEVEL  0          7TH LEVEL  0":? #6:
? #6;"  MISSING A TRAPPED"
25 ? #6;" GRUB LOSES 5 POINTS":? #6:?
#6;"  you have 4 lives."
```

```
100 FOR B=0 TO 511
101 IF B>423 THEN READ D:POKE A+B,D:NE
XT B:GOTO 107
106 POKE A+B,PEEK(57344+B):NEXT B
107 POSITION 4,20:? #6;"PRESS start":P
OKE 53279,0
109 IF PEEK(53279)<>6 THEN 109
110 ? #6;CHR$(125):POKE 710,190:POKE 7
08,44:POKE 709,222:POKE 711,142:POKE 7
56,PEEK(106):POKE 712,0
190 POSITION 0,0:? #6;"score0    dead0
  xxx"
194 GOSUB 900:GOSUB 910
195 H=9:V=22:C=32:COLOR 249:PLOT H,V:M
=1:FR=0:SC=0:KD=0:IN=7
199 N=1:GOSUB 920:N=2:GOSUB 920:GOSUB
2000:SOUND 1,255,0.4
200 ST=STICK(0):IF ST=14 AND V>1 THEN
400
202 IF ST=13 AND V<23 THEN 410
204 IF ST=11 AND H>0 THEN 420
206 IF ST=7 AND H<19 THEN 430
210 LOCATE H,V+1,Z:IF Z=32 THEN GOSUB
440
220 IF STRIG(0)=0 THEN GOSUB 470
230 N=N+1:IF N>2 THEN N=1
231 GOSUB 600
298 LOCATE H,V,Z:IF Z=32 THEN COLOR 24
9:PLOT H,V
299 GOTO 200
300 LOCATE H,V+1,Z:COLOR 32:PLOT H,V:I
F Z119ORZ=118 THEN 302
301 V=V+1:COLOR 249:PLOT H,V:GOTO 204
400 LOCATE H,V-1,Z:IF Z=222 OR (Z=32 A
ND C=222) THEN COLOR C:PLOT H,V:V=V-1:
COLOR 249:PLOT H,V:C=Z
402 LOCATE H,V-1,Z:IF Z=222 OR (Z=32 A
ND C=222) THEN COLOR C:PLOT H,V:V=V-1:
COLOR 249:PLOT H,V:C=Z
404 LOCATE H,V-1,Z:IF Z=222 OR (Z=32 A
ND C=222) THEN COLOR C:PLOT H,V:V=V-1:
COLOR 249:PLOT H,V:C=Z
408 IF Z=118 OR Z=119 THEN 450
409 GOTO 210
410 LOCATE H,V+1,Z:IF Z=222 THEN COLOR
 C:PLOT H,V:V=V+1:COLOR 249:PLOT H,V:C
=Z
412 LOCATE H,V+1,Z:IF Z=222 THEN COLOR
 C:PLOT H,V:V=V+1:COLOR 249:PLOT H,V:C
=Z
414 LOCATE H,V+1,Z:IF Z=222 THEN COLOR
 C:PLOT H,V:V=V+1:COLOR 249:PLOT H,V:C
=Z
418 IF Z=118 OR Z=119 THEN 450
419 GOTO 210
420 LOCATE H-1,V,Z:IF Z=32 OR Z=222 TH
EN COLOR C:PLOT H,V:H=H-1:COLOR 248:PL
OT H,V:C=Z
428 IF Z=118 OR Z=119 THEN 450
429 GOTO 210
430 LOCATE H+1,V,Z:IF Z=32 OR Z=222 TH
EN COLOR C:PLOT H,V:H=H+1:COLOR 250:PL
OT H,V:C=Z
438 IF Z=118 OR Z=119 THEN 450
439 GOTO 210
440 COLOR C:PLOT H,V:LOCATE H,V+3,Z:IF
 Z<>32 THEN 450
442 V=V+3:COLOR 249:PLOT H,V:C=32:RETU
RN
450 M=M+1:POKE 712,14:FOR W=100 TO 0 S
TEP -5:SOUND 0,W,8,10:NEXT W:POKE 712,
0
451 FOR W=0 TO 100 STEP 5:SOUND 0,W,8,
10:NEXT W:SOUND 0,0,0,0
454 IF M>4 THEN 460
455 COLOR 32:PLOT M+15,0:COLOR C:PLOT
H,V:C=32:H=9:V=22:COLOR 250:PLOT H,V
459 GOTO 200
460 POSITION 5,23:? #6;"tHe eNd":POKE
53279,0:SOUND 1,0,0,0:GOSUB 2010
468 IF PEEK(53279)<>6 THEN 468
469 POKE 77,0:POSITION 0,0:? #6;CHR$(1
25):GOTO 190
470 IF H<1 OR H>18 OR V>19 THEN RETURN

471 LOCATE H,V,Z:IF Z=249 THEN RETURN
475 FOR W=0 TO 149 STEP 20:SOUND 0,14,
8,INT(W/10):NEXT W:SOUND 0,0,0,0
478 IF Z=250 THEN 490
479 IF Z=248 THEN 480
480 LOCATE H-1,V+2,Y:LOCATE H-1,V+1,Z:
IF Z=32 THEN COLOR 85:PLOT H-1,V+1:RET
URN
481 IF Z=85 THEN COLOR 32:PLOT H-1,V+1
:RETURN
482 IF (Z=118 OR Z=119) AND Y=32 THEN
COLOR 85:PLOT H-1,V+1:GOTO 500
483 RETURN
490 LOCATE H+1,V+2,Y:LOCATE H+1,V+1,Z:
IF Z=32 THEN COLOR 85:PLOT H+1,V+1:RET
URN
491 IF Z=85 THEN COLOR 32:PLOT H+1,V+1
:RETURN
492 IF (Z=118 OR Z=119) AND Y=32 THEN
COLOR 85:PLOT H+1,V+1:GOTO 500
493 RETURN
500 FOR W=1 TO 2:LOCATE H(W),V(W),Z:IF
 Z<>85 THEN NEXT W
502 FOR WW=255 TO 100 STEP -10:SOUND 0
,WW,4,14:NEXT WW:KD=KD+1
503 POSITION 14,0:? #6;KD;
504 N=W:GOSUB 920
506 SOUND 0,0,0,0:B(W)=0:IF V=1 THEN S
C=SC+20
507 IF V=4 THEN SC=SC+15
508 IF V=7 THEN SC=SC+10
509 IF V=10 THEN SC=SC+5
510 IF V=13 THEN SC=SC+1
517 POSITION 5,0:? #6;"   ";:POKE 77,0
518 POSITION 5,0:? #6;SC;" ";:IF SC<0
THEN POSITION 5,0:? #6;"_";
519 RETURN
600 LOCATE H(N),V(N)+1,Z:IF Z=32 OR Z>
220 THEN 610
601 IF (Z=118 OR Z=119) AND ((V(N)-1)/
3<>INT((V(N)-1)/3)) THEN RETURN
602 LOCATE H(N)+D(N),V(N),Z:COLOR C(N)
:PLOT H(N),V(N):C(N)=Z:H(N)=H(N)+D(N)
603 IF (Z=118 OR Z=119) AND N=1 THEN C
(1)=C(2)
604 IF (Z=118 OR Z=119) AND N=2 THEN C
(2)=C(1)
605 IF D(N)=-1 THEN COLOR 118:IF H(N)<
1 THEN D(N)=1
606 IF D(N)=1 THEN COLOR 119:IF H(N)>1
8 THEN D(N)=-1
607 PLOT H(N),V(N):IF V(N)=22 AND (H(N
)=0 OR H(N)=19) THEN 640
608 IF Z>230 THEN C(N)=C:GOTO 450
609 RETURN
610 IF Z=32 THEN 620
612 COLOR C(N):PLOT H(N),V(N):V(N)=V(N
)+1:C(N)=Z:COLOR 118:PLOT H(N),V(N)
618 IF Z>230 THEN C(N)=C:GOTO 450
619 RETURN
620 B(N)=B(N)+1:SOUND 0,14,8,B(N):IF B
(N)>1 THEN 625
622 COLOR C(N):PLOT H(N),V(N):V(N)=V(N
)+1:IF D(N)=1 THEN COLOR 119:GOTO 624
623 COLOR 118
624 PLOT H(N),V(N):RETURN
625 IF (B(N)<14 AND KD<11) OR (B(N)<8
AND KD>10) THEN RETURN
626 COLOR 85:PLOT H(N),V(N):V(N)=V(N)-
1:IF D(N)=1 THEN COLOR 119:GOTO 628
627 COLOR 118
628 PLOT H(N),V(N):B(N)=0:SC=SC-5:POSI
TION 5,0:? #6;SC;" ";:IF SC<0 THEN POS
ITION 5,0:? #6;"_";
639 SOUND 0,0,0,0:RETURN
640 COLOR 32:PLOT H(N),V(N):FR=FR+1:FO
R W=1 TO 15:SOUND 0,INT(RND(0)*100),10
,10:NEXT W:SOUND 0,0,0,0:GOSUB 920
645 POSITION 18,23:? #6;FR;:IF FR>9 TH
EN 460
648 SC=SC-5:POSITION 5,0:? #6;SC;" ";:
IF SC<0 THEN POSITION 5,0:? #6;"_";
649 RETURN
900 FOR W=2 TO 20 STEP 3:POSITION 0,W:
? #6;"UUUUUUUUUUUUUUUUUUUU":NEXT W
901 POSITION 0,23:? #6;"]]]]]]]]]]]]]]
free0]";
909 RETURN
910 FOR W=2 TO 20 STEP 3:X=INT(RND(0)*
8)+1:POSITION X,W:? #6;"^":POSITION X,
W+1:? #6;"^":POSITION X,W+2:? #6;"^"
911 NEXT W
912 FOR W=2 TO 20 STEP 3:X=INT(RND(0)*
8)+10:POSITION X,W:? #6;"^":POSITION X
,W+1:? #6;"^":POSITION X,W+2:? #6;"^"
```

```
913 NEXT W
919 RETURN
920 R=INT(RND(0)*4+1):ON R GOTO 921,92
2,923,924
921 V(N)=1:GOTO 925
922 V(N)=4:GOTO 925
923 V(N)=7:GOTO 925
924 V(N)=10:GOTO 925
925 IF N=1 THEN H(1)=0:C(1)=32:B(1)=0:
D(1)=1
926 IF N=2 THEN H(2)=19:C(2)=32:B(2)=0
:D(2)=-1
929 RETURN
999 RETURN
1000 DATA 191,191,0,253,253,0,239,239,
80,112,168,81,113,115,127,62
1010 DATA 10,14,21,142,138,206,254,124
,48,48,16,240,16,112,216,8
1020 DATA 26,26,126,88,88,28,22,48,12,
12,8,15,8,14,27,16
1030 DATA 0,0,0,255,0,0,0,0,0,0,0,0,25
5,0,0,0
1040 DATA 255,255,255,255,255,255,255,
255,129,255,129,129,129,255,129,129,0,
0,0,255,255,0,0,0
1050 DATA 90,90,90,114,77,77,77,90,90,
77
1100 DATA 60,53,47,45,40,35,31,29
1200 DATA 29,31,35,40,45,47,53,60,64,7
2,81,91,96,108,121,128,144,162,182,193
,217,243
2000 RESTORE 1100:FOR TU=1 TO 8:READ N
O:SOUND 0,NO,10,8:FOR W=1 TO 20:NEXT W
:NEXT TU
2009 SOUND 0,0,0,0:RETURN
2010 RESTORE 1200:FOR TU=1 TO 11:READ
NO:SOUND 0,NO,10,8:POKE 712,NO:FOR W=1
 TO 25:NEXT W
2011 READ NO:SOUND 0,NO,10,8:POKE 712,
NO:FOR W=1 TO 12:NEXT W:NEXT TU:SOUND
0,0,0,0
2012 FOR W=1 TO 84:NEXT W:FOR W=1 TO 3
:SOUND 0,243,10,8:FOR WW=1 TO 10:NEXT
WW:SOUND 0,0,0,0
2013 NEXT W
2019 POKE 712,0:SOUND 0,0,0,0:RETURN
```

BOOK REVIEW

DESIGNS FROM YOUR MIND WITH ATARI GRAPHICS
by Tom Rowley. Published by Prentice-Hall. R.R.P. $23.95
Reviewed by Ken Hambly. (Mount Pritchard Public School, N.S.W.)

This book is for the Atari 400/800 and takes the novice into the wondrous world of computer graphics. It is a tutorial that takes the user step by step into that world with every step being demonstrated in a simple program. Explanations are provided for each new BASIC term encountered.

To ensure that the user understands each unfolding marvel, questions are posed -allowing you to test yourself. e.g. "What statement would you use to change the right margin to column 3?"
Answers are written upsidedown at the foot of the page, thus eliminating annoying page turning. (ANSWER: POKE 83,3)

It is gratifying to find within the book, two whole chapters devoted to teaching the user some of the real elements of "ART". So many other computer books presuppose a knowledge or are written by those with none. The use of colour " to express a variety of feelings" is explored. Perspective and depth is adequately explained -drawing shapes using one or two vanishing points. Shading to portray depth is also examined. All of the 400/800 graphics modes are explained as well as the limitations of the CTIA chip as compared with the newer GTIA chip, thus enabling the CTIA owner to still participate (although all Australian Ataris have the GTIA chip fitted).

This book is divided into two parts with the first part being an excellent tutorial for the novice.

Part two is not so excellent. We are taken through custom display lists, mixed mode screens and player missile graphics in a mere 80 or so pages -all this when it took 100 pages to get to this point. Still, it's a taste of what can be achieved with you Atari.

Frustration rears its ugly head again when memory addresses (PEEK and POKE) appear -particular uses are well explained, but the inquisitive novice is left wondering.

An interesting feature of the book is that after each section a "Challenge" is presented. A program or program modification is asked for as a way of testing that you have understood the book up to that point. Answers (program listings) for these are printed at the back of the book.

XL owners are still waiting for a book called the 600XL/800XL Tutorial. Designs from Your Mind might fill the graphics gap while we wait.

Computer Terminologies

These terms were first printed in the San Leandro Computer Club Magazine in May 1984.

ANSI a hacker who can't sit still.
BATCH a minor gripe.
BUFFER a nude computer user.
CURSOR a hacker who BATCHES a lot.
DISK DRIVE an address in Carmel.
END USER programmers who sit a lot.
GIGABYTE a painful sting on the giga.
INDUSTRY STANDARDS nonconforming guidelines.
RAM where most of the bugs are kept.
TERMINAL INTELLIGENCE to be so smart it kills you.

InterACTION!

by Ken Scalley. (Winston Hills, N.S.W.)

This magazine is really taking off!! Last month's magazine talked about our President becoming our international correspondent, and now I receive a letter from OSS (the people who market ACTION!) saying (in part):-

> "Just read your wonderful ACTION! review in the August issue..... I've enclosed a review copy of our new ACTION! TOOLKIT. Try it out...
>
> Ray Crocker.
> (Marketing Director)
> cc:Michael S.Peters
> Bill F.Wilkinson
> Mark M.Taketa "

Well, how about that.. this magazine is read everywhere. My thanks to Mr. Peters (by the way, can anyone tell me what "cc" means? ..I think it must be Latin, or some other old programming language ..like BASIC (Before ACTION! -Slow Interpretive Code??????)).

Well with all that I really must do two things..

1 Write a review of the review copy!

2 Not say anything bad about it!!

Anyhow, on with the review. The ACTION! TOOLKIT contains the following files:-

ABS ACT	ALLOCATEACT	CHARTESTACT	CIRCLE ACT
CONSOLE ACT	IO ACT	JOYSTIX ACT	PMG ACT
PRINTF ACT	REAL ACT	SORT ACT	TURTLE ACT
GEM DEM	KALSCOPEDEM	MUSIC SCR	MUSIC DEM
SNAILS DEM	WARP DEM	CIRCLE DM1	CIRCLE DM2
SORT DM1	PMG DM1	PMG DM2	PRINTF DM1
REAL DM1	TURTLE DM1		

and comes complete with 33 page instruction book.

The routines on the disk perform the following functions:-

ABS ACT -return absolute value.
ALLOCATEACT -allow dimensioning of arrays whose lengths are determined at run time. (This is not really available in ACTION!, but can be "fudged".)
CHARTESTACT -test if lower case, upper case, etc. and conversion of characters.
CIRCLE ACT -circle drawing routine (very fast, and does not use sine or cos).
CONSOLE ACT -debounces console keys, and allow automatic running of program branches if console keys pushed.
IO ACT -DOS functions and burst IO through CIO.
JOYSTIX ACT -changes joystick values to better than those funny OS values.
PMG ACT -player/missiles.
PRINTF ACT -extends the library printf function, and gives left justify, and lots more. Works with hex output (library command doesn't!!).
REAL ACT -allows use of floating point numbers.
SORT ACT -quicksort routine.
TURTLE ACT -a la LOGO.
GEM DEM -demo arcade game.
KALSCOPEDEM -kaliedescope demo.
MUSIC DEM -playable organ demo.
SNAILS DEM -another game.
WARP DEM -advanced concept game.

Before you all get too carried away with all of this, I would like to have a bit of a gripe. When I bought my ACTION! cartridge, I also bought a disk called the Programmers Aid Disk ..it seems to me that a large proportion of the above programs were on the earlier disk. admittedly, the P.A.D. did not come with any documentation (unless you count a file on the disk called 'READ.ME' which had a brief description of the programs.)

Certainly, the following were on the P.A.D.:-

ALLOC ACT	CIRCLE ACT	IO ACT	PMG ACT
PRINTF DOC	REAL ACT	TURTLE ACT	GEM ACT
SNAILS ACT	KALSCOPEACT		

although the printf routine has been improved (as might some of the others).

So, while I think it is good value ($US30) and contains some really good routines, (the changes to the printf command, and the new SORT routine are great!), I was disappointed. I think it should have been more properly sold as an upgrade to the P.A.D..

That's about it. I guess I succeeded in 1 (write a review), but failed in 2 (no bad comments.) ---no more review copies!

Having now got into the bad books, I will list some known ACTION! bugs for fellow ACTION! users:-

* r"<filename>" will NOT run compiled code from monitor.

* compiling with a negative offset does NOT work (at all!!). I notified this to OSS in desperation, as the manual is full of how great this is (and it would be too -if it worked!) They hope to have a patch for next cartridge.

* w"<filename>" will NOT repeat on error if compiled from disk (ggrrr!! ..start to re-compile ....ggrrr)

* the run time package as supplied will not work (patched in OSS newsletter.)

* printbde in run time will not work. I have patched this if anyone wants a copy.

* printf will not work with hex and some strings (see TOOLKIT review).

I also have some doubts about the following, but no real proof:-

* when a IOCB error occurs, such as 129 or 131, the name of the last opened IOCB is given, not the one causing error.

* Not really a bug, but an undocumented command:- <shift><control>E in the editor takes you to end of file.

* If you are trying to access out of arrays, you might be interested to know that arrays dimensioned to less than 256 are coded "in line" in code. More than 256 are stored at end of the code. Exactly 256 is in line -I think!

That's all for this month!
Ken Scalley

From the Software Exchange

from Brian Simmons. (Software Exchange)

Fellow Atari Computer Enthusiasts, by the time you read this my term of office will be over and due to my present business commitments someone else will be taking on the responsibilities of the Disk Software Exchange.

I feel it appropriate at this time to set down a few thoughts and also to thank everyone for their assistance and understanding during the past twelve months. I would especially like to thank the committee, they are truly a dedicated and hard working group.

The software exchange has certainly grown during my term of office. When I took over the Exchange, there were just four disks:-
GAMES 1, UTILITIES 1, INSIDE INFO Volume 1 and FORTH and the only written documentation was for FORTH! Now, as you will see else where in this issue there are seventeen disks in the Exchange:-
GAMES 1, 2 and 3; UTILITIES 1, 2 and 3; INSIDE INFO Volumes 1, 2 and 3; FORTH; XL TRANSLATOR; EDUCATION 1, 2, 3, 4, 5 and 6.
I can claim credit for introducing ten of these disks into the Exchange and for providing the written documentation for all the software Exchange disks.

Blank disk sales have continued to be a strong line in our club marketing structure. After selling our original supplies of disks the committee decided that we should try to provide better quality disks for the Exchange. After detailed investigation I was able to negotiate the purchase of 500 NASHUA SS SD (Single Sided, Single Density) disks. These disks were sold at just slightly more than the previous ones -$32 for ten disks in a plastic box. Because these disks sold well and disk prices seemed to fall, I was able to negotiate an even better price for our latest supply of 500 blank Disks, again from NASHUA. These we can now offer to club members for $27 -and that's not bad for ten Single Sided, Double Density Disks in a smart new black plastic case, is it?

Well all that sounds like I'm terrific doesn't it, but I do have an apology to make to some of you who have had to wait a little longer than you should for your orders! I do have my excuses but I won't bother you with them now, other than to say sorry to those concerned and I really have been doing something these past twelve months.

Finally, things are looking pretty good for ATARI computers -what with new guidance in the USA, the 800XL on the N.S.W. School's Contract and new cheaper prices from Futuretronics. I think we will see our club grow even more and the new person on the Software Exchange will be very busy filling orders from all our past, present and future Enthusiasts.
Good luck to my successor and LONG LIVE ATARI.

Here is the up to date list of software which is available through the Club's Software Exchange. Disks cost $10 each (DOS II, single density format), are double density and are only guaranteed to format on one side. Cassettes are $8 each. All instructions are supplied. Titles marked with * are not available on cassette.

UTILITIES #1

MASSACRE Allows you to selectively delete multiple files from a diskette, even if they're locked. Ideal for 'cleaning up' those old disks.

MEMTEST A machine language program used to test your ATARI's Random Access Memory.

NUM.OBJ Provides the BASIC user with automatic generation of line numbers.

MICROASM.BO1 This is an assembler which can:-

1) Input and assemble source code
2) Save object code on tape
3) Load object code from tape
4) Execute the object program (USR)
5) Call the object program and pass a parameter
6) Disassemble an object program to the screen.

ASM (SYMBOLIC ASSEMBLER) This assembler is written in BASIC, is disk oriented and supports symbols and labels.

PRINTNOP This is the assembler source code for a parallel printer driver which utilizes the ATARI's joystick ports (Nos. 3 & 4).

UTILITIES #2

MENU.JOY Choose the program you want to RUN using a joystick.

MENU Menu program with novel title page.

M A quick menu.

MENU.2 A menu program.

SUPER.MEN Can alphabetise files, allows you to run programs and get a print out of the menu.

BUBLSORT.ANT A fast sort routine.

SCRNPRNT.LST Dumps screen to printer.

RENUMBER Can renumber by giving new starting number and step (line number interval.

BUILD2X.BAS A utility to AUTORUN any BASIC program using DOS II.

BANERMAK.BAS Makes large banners of your typed input.

DISKDIR Disk directory dump for 40 column printer (Prints in 2 columns) or 80 columns printer (in 3 columns).

MASTRDIR Keeps a directory of all your disk files.

PMMOVER Player missile mover subroutine demo.

LEPRDEMO Character set demo subroutine.

BANABANA.BAS Makes banners of any height or width out of any character or message.

MISSILE Missile subroutine demo (4 player missiles).

DISKCAT Disk cataloging program with menu options.

EPSET Set dipswitches of Epson printer or Epson compatible printers.

SOUNDEFF.BAS Allows you to experiment with sounds, directs output to screen or printer.

MULTICOLR.BAS Set up to 24 different colour bars across screen by experimenting with background, luminance and character luminance. You can then save the custom screen to disk or cassette.

DLIST.BAS Display list demo (tutorial) using GR.0, 1, 2, 7 and 8 on the screen at the same time.

☞

UTILITIES #3

CITYSCRL A scrolling city skyline by Stan Ockers.

HELISCRL As for CITYSCRL but with an added touch.

HELLO A Tinydos.

SOUNDS An easy to use sound effects generator.

POLYCOPY A disk copying utility which allows you to select only specific programs and arrange them in a specific order.

MENUPLUS A very useful disk menu. Allows creation of an AUTORUN.SYS, lock files, binary load and other features all from the menu.

COLORS An easy way to find the most pleasant combination of background and text colours for your program.

DISKSORT Sorts disk titles alphabetically. Includes a menu function.

PMHELPER.2 An easy to use player maker from Stan Ockers.

CHEQUES You can use this to have your computer write your cheques for you.

MEMMAP A memory map. Gives a visual graphic display of top of RAM, Screen RAM, ...

GAMES #1

ARTILLER.BAS A game for 2 people. The object is to blow up your opponent by firing an artillery shell while judging the angle of your gun and the amount of gun powder required.

BLACKJACK Card game played against the computer.

BOING The object of this game is to bounce on a trampoline for the greatest number of times without falling off.

APPLE CIDER You must protect your apples from being squashed by the invading alien ship.

DOGGIES A game of logic. You have to arrange in correct order, six little doggies in the least number of moves.

GOBLIN Like PACMAN (tm) but there's only one ghost.

CLEWSO You assume the role of the famous inspector Closeau to solve a murder case involving five suspects.

HANGMAN The traditional spelling game of 'guess the word'.

CHICKEN Make the chicken cross the busy Highway without getting run over!

LINES An addictive two player game in which you to try to get your opponent to run into your line, the border or himself.

GAMES #2

DRAW.BAS Use a joystick and try to cover the screen in colour before time is up. The computer is working against you. You will be credited with percentage of screen you have covered with your colour.

ANTWARS Try to wipe out the eggs before they hatch.

BATS Try to fly through a cave without hitting stalactites, stalagmites or poisonous insects. You can only use your fire button. A Stan Ockers game.

SPDEM How quickly can you get around the race track? Don't drop too much oil!

ADVENTRE A simple graphic and text adventure -joystick and keyboard.

VOLTURES Vultures descend in waves while you try to wipe them out. Concentrate!

LANDER Land on the planet with limited fuel and don't crash!

ASSAULT.BAS You are the Chief Gunnery Post Officer on planet KALA. Protect your food processing plants from marauding Alien craft.

PLUSZERO Use a joystick to move the PLUS. You score by trapping the ZERO!

STELLAR Try to hit as many invaders as possible. You only have 75 shots per wave. Make them count.

MISSILE1 Protect your city from invading space craft.

GAMES #3

CANNIBAL Get the missionaries and cannibals across the river in 1 canoe without getting eaten by the cannibals.

DEPTHCHG Destroy the enemy subs with your depth charges.

EGGSNTCH Snatch all the eggs from the ants nest before they hatch.

LANDER7 Try to land on the moon without crashing.

STARBLST Blast away the enemy ships with your lasers.

KONG Like the arcade game but written in BASIC. Climb ladders, jump barrels and bricks to rescue your fiancee.

HURKLE Find 'Hurkle' on a grid. You have to use compass directions.

*"ATARI figFORTH 1.4S"

The language, "FORTH", available only on disk.

*XL TRANSLATOR

Several popular programs won't run on the new XL machines. This disk has two operating systems (one per side) which will allow you to run virtually any existing software.

"INSIDE INFO VOLUME ONE"

Ready to run programs that featured in issues 1 to 6 of Inside Info.

"INSIDE INFO VOLUME TWO"

Ready to run programs as featured in issues 7 to 10 of Inside Info. This disk also contains the cartoons (by Allan R. Smyth) which were printed in Inside Info #12 (April 1984).

"INSIDE INFO VOLUME THREE"

Ready to run programs as featured in issues 11 to 14 of Inside Info.

EDUCATION #1

AMERICAS General knowledge test of North and South American Capital Cities.

ASTRON.BAS Observational Astronomy based on formulas in practical Astronomy. It gives information on objects in the solar system or deep sky over a period of time.

BEGINTYP Touch typing drills.

BUDGET.BAS Monthly household budget which can be used for simulation exercises.

MATHPKG Is a maths package with several available routines:-

1. Greatest Common Denominator.
2. Prime Factors of Integers.
3. Linear Interpolation.
4. Quadratic Equations.
5. Simultaneous Equations.
6. Permutations and Combinations.

SPELLBEE A spelling drill program in which you enter your own words. The computer mixes them up, then flashes them on the screen for you to spell. If you make a mistake it gives you longer to look at the word.

MICROTXT.WP A simple Word Processor that allows you to enter TEXT, SAVE, CLOAD, DISK, LOAD, EDIT and PRINT.

CAESARS.C Sets up a Roman Numeral Digital Clock. You can adjust the hours, minutes and seconds.

DIVISION.BAS This is a Long-Division tutorial/drill at 4 different levels.

MULTIPLY.BAS This is a long Multiplication tutorial/drill at 2 different levels.

IMPFRACT.BAS Improper fractions to mixed numerals.

EQUFRACT.BAS Equivalent fractions at 2 different levels.

EDUCATION #2

ELLIPSE Give the X and Y co-ordinates and see the ellipse drawn for you.

FUNCTION Enter a number and watch it go through the FUNCTION MACHINE.

MADLIB Input nouns, verbs ... and a story will be generated.

MATH.PRO Timed math drill including all operations. Has 7 levels and can print results to a printer (LIST program to find the print command).

MATH2 Areas of irregular spaces, Parts of triangles, binomial probability, days of the week, metric conversions.

MINUTE.MTH A timed math drill -addition and subtraction of 1, 2, or 3 digits.

MORSE This is key-6 Hand Cipher. It enciphers plain text messages and deciphers cipher text messages.

NUMLINE You can set your own line length and increment.

POWER2 Calculate powers of 2. You select the power range from 5 to 325.

SCRAMB.14 Unscramble the letters and correctly spell the word.

SLIDE A mathematical game of chase and tag. (Note: one of the operations must be subtraction. E.G. 3+2-1)

TOUCH A typing tutorial and drill.

EDUCATION #3

FLAGSA graphic quiz on some of the flags of the world.

HANGQUOT Similar to hangman but you have to guess words and whole quotations. Numbers and punctuation count! Be sure to use '?' when the quotation is a question.

MATHWARS Math drill. A problem appears on the screen and slowly descends. If the answer is given in time, a missile is launched and explodes the problem. If not answered in time the problem will explode when it reaches the bottom and the correct answer is shown. This program is set up for addition but could easily be modified for other operations by changing lines 190, 250, 340, 350 and 360.

MEMORY.PRO A memory training game in which you repeat either letters, numbers, or a combination of both. Up to 18 repetitions per round.

MULT Tutorial and drill on multiplication of single numbers. Six levels.

NOUNS Select the item that is different from the others shown. Uses joystick.

ODDEVEN Select the item that is different from the others shown. Uses joystick.

PLURALS Select the item that is different from the others shown. Uses joystick.

REMGAMES Try to guess an unknown number by using division. The computer will give you the remainder. Four levels.

VERBS Select the item that is different from the others shown. Uses joystick.

EDUCATION #4

ALGEBRA1 Elementary algebra drill that tests distributive axiom of multiplication and addition.

ALGEBRA2 Algebra drill to determine the bi-nomial roots of simple polynomials.

ATRAIN Animated spelling game K to 2. Use the joystick to move the train carriages loaded with letters under the grabber. Push fire button to grab a letter and load it onto the truck. If the wrong letter is chosen it will be pushed off the loading ramp and back on it's carriage. Spell the word correctly and you'll hear "I've been working on the railroad."

COUNTING Addition or counting game for Yr 1 or 2. Answer correctly and a spaceship flies across the screen, removes your answer and lands for a friendly visit.

GEOQUIZ A geography quiz

LWRCASE.GR2 A tutorial on using upper and lower case letters in Graphics one and two. Routines to read input from the keyboard, and backspace in GR.1 and 2 are included.

MOOMIND A Mastermind style game but in this one the computer answers in cows and bulls. A test of logic.

OLDMAC A counting and matching game for pre-schoolers and early primary grades.

SCRAMBLE.JK Unscramble the letters to spell the word correctly. (Yr6 to adult).

WORDTROU.LE A homonym word game that requires you to put the correct word in a sentence.

EDUCATION #5

ALGEDRIL Drills and timed tests on four different types of algebra problems.

AREAS.REV Will give the area or volume of a given shape when you give the dimensions.

DICEMATH Uses dice to set up arithmetic problems. Similar to dominoes but easier.

DOMINOS Solve arithmetic problems based on the spots on the dominos.

ESTIMATI Estimation by visually assessing the size, number, and co-ordinate relationships between lines, shapes and dots. Answers must be exact (Primary to adult).

EXPANSIO Determine the value of each 'house' of a number, then add them up to arrive at the original number.

HANGMAN.REV An expanded hangman game with 310 words included.

SCRPTURE A quiz that will test your knowledge of Biblical events, places and persons.

WORLDCAP A text quiz that asks you to name the capitals of the countries of the world.

EDUCATION #6

VOLCANO An adventure simulation dealing with the Mount St Helens eruption.

MAGICSQU The classic Magic Square in two levels, sequential and summed in all directions.

OREGON A survival simulation based on the Oregon trail set in the 1800s.

WildWest

by Stan Ockers.

[Program reprinted from Eugene A.C.E. Newsletter, April 1983. Article by Garry Francis.]

One of the very early coin-op games from Atari was a game called Avalanche. The object of the game was to catch a whole lot of falling rocks with a "shield" that you moved backwards and forwards along the bottom of the screen with a paddle controller. The graphics were pretty horrible (colour was supplied by strips of cellophane glued over the black and white TV screen), but the game was very compulsive.

A couple of years later, Activision released a game called Kaboom for the Atari 2600. It had almost the same play mechanics as Avalanche, but the graphics and animation were far superior. Come to think of it, they were superior to just about anything available on the 2600 at that time. Kaboom was a huge success and helped to establish Activision as one of the leading software producers for the 2600. (Both Avalanche and Kaboom are now available for Atari computers from APX and Activision respectively.)

Stan Ocker's game called Wildwest was inspired by Kaboom. In fact, if you were to change the characters and the colours, you probably couldn't tell the difference!

How To Play:

Dynamite Dan races backwards and forwards across the top of the screen while dropping sticks of dynamite. Your job is to catch the sticks of dynamite in your sombrero before they reach the bottom and explode. You get 5 points for every stick you catch. There are 15 sticks on the easiest difficulty level, 20 on the second, 25 on the third and so on. If you catch all the sticks, you go on to the next level, but not until Dynamite Dan has a rest. Press the fire button when you think he's had a long enough rest and the game will continue. You can also change the difficulty level yourself by pressing SELECT during the break.

When you miss a stick of dynamite, you go down a difficulty level and you lose one of your sombreros. You begin the game with 4 sombreros, but you'll get a bonus sombrero every 1000 points (up to a maximum of 9). The game finishes when you run out of sombreros.

Suggested Modifications:

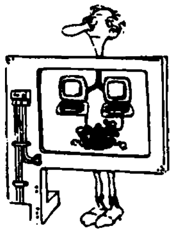
This is a great game. I'm sure you'll enjoy it the way it is, but there are a number of changes you can make to make the game harder. I'm not very good at arcade games, but I was able to rack up well over 100,000 points and 9 spare sombreros. While I was having a break to write this article, we had a thunderstorm which zapped the power supply and the computer went haywire, so I lost the game!

The game works best with paddles, so I recommend that you use them. However, if you're in the unfortunate position that you don't own any paddles, then change the lines given in listing 2 and you can play Wildwest with a joystick.

The values in the DATA statement in line 1060 determine the delay in 1/50ths of a second between each stick of dynamite falling. There is one value for each of the nine difficulty levels. Increase the values to make it easier or decrease the values to make it harder, but don't go above 255 or below about 5.

Similarly, the values in line 1080 determine the number of sticks that Dynamite Dan will drop in each level. These can be any value between 1 and 255.

The number used for comparison with the random number in line 250 determines how often Dangerous Dan changes direction. Increase the value to make him change direction more often.



LISTING 1

```
0 REM ###############################
1 REM #  WILDWEST - PADDLE VERSION  #
2 REM #       by Stan Ockers        #
3 REM #       Reprinted from        #
4 REM #  Eugene A.C.E. Newsletter   #
5 REM #         April 1983          #
6 REM # Published by Atari Computer #
7 REM #    Enthusiasts (N.S.W.)     #
8 REM #        December 1984        #
9 REM ###############################
140 GOSUB 450:GRAPHICS 0:POKE 756,CSPA
GE:GOSUB 610:GOSUB 860:GOSUB 1000:GOSU
B 1110:GOSUB 1330
150 ? "Press START to begin"
160 IF PEEK(53279)<>6 THEN 160
170 GOSUB 580:RESTORE 180:FOR J=704 TO
 712:READ A:POKE J,A:NEXT J:BKG=56
180 DATA 0.44,92.34,66.14,50,0,56
190 DIF=1:SCORE=0:HATS=4:? CHR$(125):P
OSITION 21,0:? "dif   score   high":PO
KE 1761,100:POKE 1762,100
200 FOR J=53248 TO 53251:POKE J,100:NE
XT J:POKE 1763,2:POKE 1766,200:POKE 17
67,40:GOSUB 1370:BONUS=1000
210 Y=20:FOR X=3 TO HATS*3 STEP 3:GOSU
B 840:NEXT X:POSITION 14,0:? HIGH:A=US
R(1536):POKE 559,46:POKE 53277,3
220 IF PEEK(53279)=5 THEN DIF=DIF+1:IF
 DIF=10 THEN DIF=1
230 POSITION 2,0:? DIF:FOR J=1 TO 100:
NEXT J:IF PTRIG(0)=1 THEN 220
240 GOSUB 1370:POKE 1760,0:POKE 1781,0
:POKE 1768,0:POKE 77,0
250 IF RND(0)<0.01*DIF THEN POKE 1780,
1
260 INCR=SCORE+PEEK(1768)*5:POSITION 6
,0:? INCR
270 IF PEEK(1760)=0 THEN 250
280 SCORE=INCR:SOUND 1,0,0,0
290 IF SCORE>BONUS THEN BONUS=BONUS+10
00:IF HATS<9 THEN HATS=HATS+1:Y=20:X=3
*HATS:GOSUB 840
300 IF PEEK(1768)<PEEK(1769) THEN GOSU
B 730:GOTO 320
310 DIF=DIF+1:IF DIF>9 THEN DIF=9
320 IF HATS=0 THEN 350
330 GOTO 220
340 REM * game over routine *
350 POSITION 1,7:? " ##   #  #   # ##
   ##  #   # ##  ##"
360 POSITION 1,8:? "#  # # # ## ## #
  #  # #   # #  #  #"
370 POSITION 1,9:? "#    # # # # # ##
  #  # ## ## ## #  #"
```

```
380 POSITION 1,10:? "# ## ### #   # #
   # #  # #  #  ###"
390 POSITION 1,11:? "#  # # # #   # #
   # #  ###  #  #  #"
400 POSITION 1,12:? " ##  # # #   # ##
    ##    #   ## #  #"
410 IF SCORE>HIGH THEN HIGH=SCORE
420 IF PEEK(53279)<>6 THEN 420
430 GOTO 190
440 REM * change character set *
450 DIM MCS$(42):RESTORE 460:FOR J=1 T
O 42:READ A:MCS$(J,J)=CHR$(A):NEXT J
460 DATA 104,169,0,133,203,133,205,169
,224,133,204,165,106,56,233,5,133,106,
24
470 DATA 105,1,133,206,162,4,160,0,177
,203,145,205,200,208,249,230,204,230,2
06,202,208,242,96
480 A=USR(ADR(MCS$)):CSPAGE=PEEK(106)+
1:CS=256*CSPAGE
490 RESTORE 500:FOR J=CS+8 TO CS+63:RE
AD A:POKE J,A:NEXT J:RETURN
500 DATA 128,2,32,1,134,1,32,8
510 DATA 2,8,128,2,64,8,32,2
520 DATA 32,130,12,28,20,20,20,20
530 DATA 0,0,8,9,9,9,10,10
540 DATA 0,0,128,128,128,128,128,128
550 DATA 10,10,10,143,143,138,170,0
560 DATA 128,128,128,200,200,136,168,0
570 REM * change display list *
580 DL=PEEK(560)+256*PEEK(561):POKE DL
+3,70:POKE DL+6,6:FOR J=DL+7 TO DL+28:
POKE J,4:NEXT J
590 RETURN
600 REM * instructions *
610 POKE 752,1:POSITION 5,1:? " # # #
WILDWEST # # #"
620 POSITION 2,3:? "Dynamite Dan has i
t in for you."
630 ? "He drops lighted sticks from th
e":? "top of the screen at rates which
"
640 ? "vary with the difficulty level.
":? "Using paddle zero you move a somb
rero"
650 ? "to catch them before they reach
 the":? "bottom and explode.  Each tim
e you"
660 ? "miss you lose a hat.  Lose all
hats":? "and the game is over."
670 ? :? "The difficulty level goes do
wn on":? "each miss, increases with ea
ch"
680 ? "sucessful group.  You may also
change":? "the difficulty level with t
he SELECT"
690 ? "key during breaks.  You get a b
onus":? "hat every 1000 points.  Use S
TART to"
700 ? "restart the game.":? :? "Inital
ization takes 18 seconds.":? "INITIALI
ZING"
710 RETURN
720 REM * explosion routine *
730 X=0:J=0:COL=20
740 IF PEEK(1664+X)=0 THEN 780
750 P=PEEK(1724+X)+PEEK(1736+X)*256:PO
KE P,1:POKE P+1,2:J=J+1:IF J=4 THEN J=
0
760 FOR K=0 TO 2:SOUND J,50+RND(0)*50,
8,13+K:NEXT K:POKE 712,COL+8*X
770 POKE P,PEEK(1712+X):POKE P+1,0:FOR
 L=1 TO 30*RND(0):NEXT L
780 X=X+1:IF X<12 THEN 740
790 SOUND 0,0,0,0:SOUND 1,0,0,0:SOUND
2,0,0,0:SOUND 3,0,0,0:POKE 712,BKG
800 X=HATS*3:Y=20:POSITION X,Y:? "  ":
POSITION X,Y+1:? "  ":HATS=HATS-1
810 DIF=DIF-1:IF DIF=0 THEN DIF=1
820 RETURN
830 REM * print hat *
840 POSITION X,Y:? "$%":POSITION X,Y+1
:? "&'":RETURN
850 REM * PM graphics *
860 DIM X$(1):A=ADR(X$):B=INT((A-512)/
1024+1)*1024:DIM F$(B-A+511):DIM P0$(1
28)
870 DIM P1$(128),P2$(128),P3$(128):POK
E 54279,B/256
880 DIM C1$(15):RESTORE 890:FOR J=1 TO
 15:READ A:C1$(J,J)=CHR$(A):NEXT J
890 DATA 16,56,186,124,0,40,0,40,16,19
8,170,146,130,68,68
900 P0$(1)=CHR$(0):P0$(128)=CHR$(0):P0
$(2)=P0$:P1$=P0$:P2$=P0$:P3$=P0$:P0$(2
6)=C1$
910 DIM C2$(11):RESTORE 920:FOR J=1 TO
 11:READ A:C2$(J,J)=CHR$(A):NEXT J
920 DATA 124,254,254,124,56,16,0,0,0,1
98,130
930 P2$(30)=C2$
940 DIM C3$(6):RESTORE 950:FOR J=1 TO
6:READ A:C3$(J,J)=CHR$(A):NEXT J:P3$(3
4)=C3$
950 DATA 170,184,170,184,170,184
960 DIM H$(9):RESTORE 970:FOR J=1 TO 9
:READ A:H$(J,J)=CHR$(A):NEXT J:P1$(80)
=H$:POKE 53257,1
970 DATA 124,198,124,124,56,56,56,56,4
0
980 RETURN
990 REM * various strings *
1000 DIM CSND$(15):RESTORE 1020:FOR J=
1 TO 15:READ A:CSND$(J,J)=CHR$(A):NEXT
 J
1010 A=ADR(CSND$):HI=INT(A/256):LO=A-2
56*HI:POKE 1774,LO:POKE 1776,HI
1020 DATA 30,142,1,25,140,1,20,138,1,1
5,138,1,0,0,0
1030 DIM DSPD$(9):RESTORE 1040:FOR J=1
 TO 9:READ A:DSPD$(J,J)=CHR$(A):NEXT J
1040 DATA 5,5,4,4,4,3,3,2,2,2,1,1
1050 DIM DDLY$(9):RESTORE 1060:FOR J=1
 TO 9:READ A:DDLY$(J,J)=CHR$(A):NEXT J
1060 DATA 30,25,20,15,10,5,5,5,5
1070 DIM CNT$(9):RESTORE 1080:FOR J=1
TO 9:READ A:CNT$(J,J)=CHR$(A):NEXT J
1080 DATA 15,20,25,30,35,40,45,50,55
1090 RETURN
1100 REM * create VBI string *
1110 DIM VBI$(398):RESTORE 1120:FOR J=
1 TO 398:READ A:VBI$(J,J)=CHR$(A):NEXT
 J:RETURN
1120 DATA 173,234,6,240,57,206,236,6,1
6,52,173,238,6,133,208,173,240,6,133,2
09,172,242,6
1130 DATA 177,208,240,21,141,0,210,200
,177,208,141,1,210,200,177,208,141,236
,6,200,140,242,6
1140 DATA 208,14,169,0,141,0,210,141,1
,210,141,234,6,141,242,6,216,173,224,6
,240,3,76,98,228
1150 DATA 173,112,2,73,255
1160 DATA 141,1,208,141,226,6
1170 DATA 173,225,6,24,109,227,6,205,2
30,6,176,27,205,231,6,144,22,141,225,6
,141,0,208,141,2,208,141,3,208
1180 DATA 173,244,6,240,13,169,0,141,2
44,6
1190 DATA 173,227,6,73,255,141,227,6,2
06,228,6,16,78,173,245,6,205,233,6,176
,70,173,229,6,141,228,6
1200 DATA 162,11,189,128,6,240,5,202,1
6,248,48,52
1210 DATA 165,89,157,200,6,165,88,24,1
05,120,157,188,6,144,3,254,200,6,173,2
25,6,157,164,6,56,233,40
1220 DATA 74,74,24,125,188,6,157,188,6
,144,3,254,200,6,169,1,157,128,6,141,2
35,6,238,245,6
1230 DATA 162,11,189,128,6,240,110,222
,140,6,189,140,6,16,102,189,152,6,157,
140,6,189,188,6,133,208,189,200,6
1240 DATA 133,209,189,176,6,160,0,145,
208,165,208,24,105,40,133,208,157,188,
6,144,5,230,209,254,200,6
1250 DATA 254,212,6,189,212,6,201,11,1
44,28,201,17,176,24,189,164,6,24,105,9
,205,226,6,144,13
1260 DATA 56,233,18,205,226,6,176,5,14
4,30,24,144,165,189,212,6
1270 DATA 201,20,144,8,169,1,141,224,6
,24,144,42,177,208,157,176,6
1280 DATA 169,3,145,208,24,144,27,169,
1,141,234,6,169,0,157,128,6,157,212,6,
157,176,6
1290 DATA 238,232,6,173,232,6,205,233,
6,176,209,202,16,196
1300 DATA 169,0,141,2,210,141,3,210,16
2,11,189,128,6,208,6,202,16,248,76,98,
228
1310 DATA 165,20,41,1,141,2,210,169,6,
141,3.210,24,144,235
1320 REM * insert VBI *
1330 RESTORE 1350:FOR J=1536 TO 1545:R
EAD A:POKE J,A:NEXT J
1340 VBI=ADR(VBI$):HI=INT(VBI/256):LO=
VBI-256*HI:POKE 1538,LO:POKE 1540,HI:R
ETURN
1350 DATA 104,160,0,162,0,169,7,76,92,
228
1360 REM * init. page 6 values *
1370 FOR J=1664 TO 1675:POKE J,0:NEXT
J:FOR J=1748 TO 1759:POKE J,0:NEXT J
1380 A=ASC(DSPD$(DIF)):FOR J=1676 TO 1
699:POKE J,A:NEXT J
1390 A=ASC(DDLY$(DIF)):POKE 1764,A:POK
E 1765,A
1400 A=ASC(CNT$(DIF)):POKE 1769,A:POKE
 1768,0.
1410 RETURN
```

LISTING 2

```
1 REM # WILDWEST - JOYSTICK VERSION #
230 POSITION 2,0:? DIF:  FOR J=1 TO 10
0:NEXT J:IF STRIG(0)=1 THEN 220
640 ? "vary with the difficulty level.
":? "Using joystick 0 you move a sombr
ero"
1110 DIM VBI$(417):RESTORE 1120:  FOR
J=1 TO 417:READ A:VBI$(J,J)=CHR$(A):NE
XT J:RETURN
1150 DATA 162,0,173,120,2,41,4,208,2,1
62,252,173,120,2,41,8,208,2,162,3,138,
109,226,6
```

Variable Lister

by Grant Schumacher.

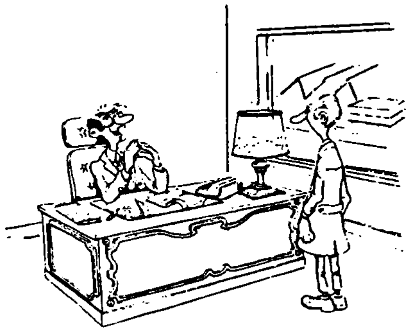
(Reprinted from Adelaide Atari Computer Club Magazine, February 1984).

Every time your Atari encounters a variable it hasn't seen since the last power-up or NEW, CLOAD or LOAD statement, it makes a note of that variable and records it in a list known as the "Variable Name Table" (VNT).

This short program can be appended to any other BASIC program (as long as the line numbers don't overlap) and then accessed by typing (in immediate mode) "GOTO 32760". All variables currently in the VNT will then be listed along with the total number of variables used (the Atari can hold up to 128 variables in all).

Arrays, no matter what size, will only count as one variable and will be printed out as "A(" which would represent array "A". This program introduces three of its own variables -I, J and DLY, so if the VNT is empty and this program is RUN, these will be the only three variables in the VNT.

```
32760 REM Variable Nametable Display
32761 I=0:GRAPHICS 0:PRINT:FOR J=PEEK(130)+256*
      PEEK(131) TO PEEK(132)+256*PEEK(133)-1
32767 IF PEEK(J)<128 THEN PRINT CHR$(PEEK(J));:
      GOTO 32764
32763 PRINT CHR$(PEEK(J))-128):I=I+1
32764 FOR DLY=0 TO 9:NEXT DLY:NEXT J:PRINT
      " VARIABLES IN USE":END
```



Congratulations on that great computer setup, Terwilliger—which, by the way, has just replaced you.

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Contact Barry Williams on (02)452-2229 (Frer Forest).

*****

Christianity and the Computer

by Chris Fitzgerald. (Clyde, N.S.W.)

As we move towards yet another Christmas season it seems an appropriate time for an article on how the computer aligns itself with Christianity. I know that most people reading this article will pooh-pooh it as a load of bunkum and possibly even feel offended that I included it in our club magazine and I am well aware that no amount of arguing, discussion or whatever will sway anyone to believe in God or Christ -only when you are ready to accept it, will that happen!

I would be the first to agree that the Christian Church has a lot of hypocrites in it, and I've left churches because I wasn't convinced that they were TRYING to live up to what they were preaching and supposedly believed! Rather, I feel that such a church sins against God because it disagrees with Him. The way I see it is that God has built His castle (creation) and anyone who doesn't like the way He wants to run it (except they may try and still fail) is standing against Him -it follows that He can kick them out!

I also recognise that the church was never meant to be an organization, but a body of Christian believers, and that the church, as an organization is failing and has based many of its doctrines on human ideas and (in its earliest days) even accepted pagan practices . For example, Christmas (which as far as we know, was first celebrated on the 25th of December in 336 A.D.) had its date fixed by the Roman Emperor Justinian because it tied in with a period of pagan celebrations which offered worship to the sun.

Going a little further Christ was actually born around 7 B.C.! The monk who fixed our 'years' in 533 A.D. forgot to include the year zero and overlooked some short time periods when he did his calculations. King Herod, the man who tried to kill the infant Christ actually died in 4 B.C. -obviously he couldn't try to kill Christ if he'd died before Christ was born!

Further evidence suggests that Christ was not born in December -rather He would have been born some time between March and November. These things are not really important, but they do serve to point out how man can easily base his customs on the wrong information. With all of this out of the way I can now get on with it.

As a Christian, although I'm a long way from a perfect example, I have been aware of possible conflicts arising with Christianity because of man's use of computers. There are two areas I can think of where computers could have a strong influence over what is stated in the Bible.

Babel

"At first, the people of the whole world had only one language and used the same words. As they wandered about in the East, they came to a plain in Babylonia and settled there. They said to one another, "Come on! Let's make bricks and bake them hard." So they had bricks to build with and tar to hold them together. They said, "Now let's build a city with a tower that reaches the sky, so that we can make a name for ourselves and not be scattered all over the earth."

Then the Lord came down to see the city and the tower which those men had built, and He said, "Now then, these are all one people and they speak one language; this is just the beginning of what they are going to do. Soon they will be able to do anything they want! Let us go down and mix up their language so that they will not understand one another." So the Lord scattered them all over the earth, and they stopped building the city. The city was called Babylon, because there the Lord mixed up the language of all the people, and from there He scattered them all over the earth."

The section you have just read was from the Bible's book of Genesis chapter 11, verses 1 to 9. As you may have realised, Babel is where we get our word 'babble' from, and for obvious reasons babble means to speak incoherently.

Where do computers come into this you say? Well, technology is working all the time for the advancement of, and to overcome the problems of man -strangely though, often when we take a step forward we put mankind at greater risk (pollution and threat of nuclear war for examples).

Today we are gradually overcoming the problem of language barriers. So far we only have programs which allow you to type in a word in one language and then see it displayed in another, but with the development of voice synthesis and voice recognition for computers it is surely only a matter of time before a place like the United Nations will be able to sack all of its interpreters.

This seems a small point, but as shown in the Bible quote above, God didn't like people trying to do just anything they wanted. As with any invention, the way man chooses to use his inventions will decide the outcome.

WORLD CREDIT

The next area that I am aware of comes from the Bible's book of Revelations chapter 13 verses 15 to 18:-

"The second beast was allowed to breathe life into the image of the first beast, so that the image could talk and put to death all those who would not worship it. The beast forced all the people, small and great, rich and poor, slave and free, to have a mark placed on their right hands or on their foreheads.

No one could buy or sell unless he had this mark, that is, the beast's name or the number that stands for the name.

This calls for wisdom. Whoever is intelligent can work out the meaning of the number of the beast, because the number stands for a man's name. Its number is 666."

Boy, and here I've been telling you all the advantages of using credit cards for overseas mail-ordering! A lot of people even see the Bankcard's 'b' symbol as 666 because of the three colours used. Revelations was written between 90 and 95 A.D. by a guy called John after seeing a series of visions of the end times (the last days of the world before the second coming of Christ).

☞

I don't intend to delve into the book of Revelations, I doubt that I could work it all out in my lifetime (maybe I'm not intelligent!) but suffice it to say that the book could be understood by the Christians of that time but that meaning is today clouded.

We've all been aware of the incredible fight by banks to get our business recently -in two years we've all but dropped the use of bank books and converted to little plastic cards and we've been able to go to an automatic teller at virtually any time and get our money which meant that we no longer needed to carry easily stolen cash on us. Now we're just reaching the stage where we don't even need to get to the automatic tellers, we can access our money at the point of transaction (EFT or Electronic Funds Transfer).

Through all of this there appears to be only two things standing in the way of a 'safe', cashless society:-

1 People still like to use money, apparently through a basic mistrust of cards which they subconsciously relate to credit cards.

2 Although plastic cards are more convenient to use and less conspicuous than a fat wallet, if they are stolen they could be used to access more money than if you'd been robbed of cash.

There are obvious solutions to these problems and they certainly have a great many advantages over carrying cash or plastic cards. Firstly cash, cheques and even the importance of gold could be eliminated. Instead of money changing hands or being placed into your account you could be paid in credits -I understand that the system would be called SDR (Standard Drawer Rights). There are several good reasons for adopting a system like this, the system would be world wide and hence overseas trade would no longer be affected by exchange rates, you eliminate the cost of printing money and your credits couldn't be stolen -you only maintain a credit balance (pity if your account gets lost or tampered with). Certainly anyone who has their pay placed directly into their account and uses EFT is doing a similar thing already, next year you'll even be able to operate your account from home!

Next, there is the need to get rid of plastic cards which can be lost or stolen -the obvious solution is to 'tattoo' a number on each person just as Hitler did with the Jews during the war. As we have already seen, it takes no time to read the magnetic strip on a card and identify the account -you only need enter a secret PIN (Personal Identification Number). Or there is the bar code system on products which can be read almost instantly by a running a stylus across it. This then identifies a product to a store's computer, which in turn itemizes and prices the product on the cash register.

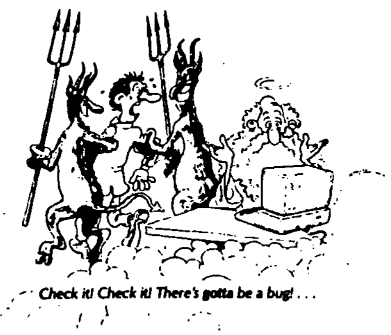
Already there is a system which is instant, invisible and painless. Currently it is being used to brand cattle and to 'tag' salmon as they swim! -it is a laser beam which destroys the skin pigment, but so finely that it can't be detected with the human eye.

Obvious advantages are that the mark would be almost impossible to forge or steal -it would be like a fingerprint and eliminate the need for cards and PIN numbers. The mark would give instant computer identification and could even identify a body which had been in an accident. Each time you made a transaction the computer would be able to keep track of where you are -imagine if the system got into the 'wrong' hands and they were looking for you, or if you committed a crime against the state, you just might have to go hungry.

It would seem that the Bible, even though it's almost two thousand years old, is pretty well informed and that perhaps the prophecies in it haven't all come to pass yet. Just watch out for the conveniences the banks start offering you next -you may get more than you bargained for!

Well, now that I've got you all paranoid, I'll sign off. Remember that Christmas isn't meant to be a time of commercialism but a time to remember what God tried to tell us through Christ. Be sure and have a happy and holy Christmas.

Best Wishes,
Chris Fitzgerald



Check it! Check it! There's gotta be a bug! . . .

Courting Crickets

by Stan Ockers

[Program reprinted from Eugene A.C.E. Newsletter, February 1983. Article by Garry Francis.]

Unlike the other games in this issue, Courting Crickets cannot be traced to a particular coin-op game, although it is a little similar to Frogger.

How To Play:

Clyde cricket lives at the bottom of a busy factory. The factory is fully automated and conveyor belts are used to transport goods backwards and forwards. At the top of the factory lives an attractive young female cricket named Cynthia. Clyde has fallen in love with Cynthia and brings her gifts, hoping to win her feeler in marriage. He must bring her flowers, perfume, candy, a necklace and finally a ring, but only one at a time.

Your job is to guide Clyde on his perilous journey through the conveyor belts. This is done using a joystick in Port 1. Press the joystick up or down, then press the fire button for Clyde to jump in the required direction. But be careful, for if Clyde crashes into any of the objects on the conveyor belts, the superstructure of the factory or goes off the end of a conveyor belt, then it's bye-bye Clyde.

If Clyde fails, he has 3 brothers willing to take over where he left off. There is also a jealous cricket who attempts to thwart Clyde's efforts by dropping old boots, hammers, vases and flowerpots from the top of the factory. If any of these hit Clyde, then again it's bye-bye Clyde.

After helping Clyde to win Cynthia's feeler in marriage, you can start over again at a higher difficulty level by pressing SELECT. There are 7 levels altogether. Level 1 is a piece of cake, whereas level 7 is almost impossible.

```
0 REM ################################
1 REM #      COURTING CRICKETS       #
2 REM #        by Stan Ockers        #
3 REM #        Reprinted from        #
4 REM #  Eugene A.C.E. Newsletter    #
5 REM #         February 1983        #
6 REM # Published by Atari Computer #
7 REM #     Enthusiasts (N.S.W.)     #
8 REM #         December 1984        #
9 REM ################################
140 ? "INITIALIZING ....."
150 DIM D$(1),F$((INT(ADR(D$)/2048)+1)
*2048-ADR(D$)-1),DD$(1024),P0$(256),P1
$(256),P2$(256),P3$(256)
160 DIM BL$(13),CR$(12),CRJ$(12),CRF1$
(12),CRF2$(12),CRM$(12),STK$(32),HT1$(
12),HT2$(12),SND$(173):HI=ADR(DD$)/256
170 DIM GF1$(15),GF2$(15),DRP$(13),CUR
$(12),COLOR$(4):GF1$="HIXLMXPQXTUXXXX"
:GF2$="JKXNOXRSXVWXZ[X"
180 REM ** Joystick Routine **
190 RESTORE 200:FOR J=1 TO 32:READ A:S
TK$(J,J)=CHR$(A):NEXT J:STK=ADR(STK$)
200 DATA 104,173,132,2,240,12,173,207,
6,240,20,169,0,141,207,6,240,13,173,20
7,6,208,8,173,120,2,41,3,141,207,6,96
210 REM ** Sound Data **
220 RESTORE 230:FOR J=1 TO 173:READ A:
SND$(J,J)=CHR$(A):NEXT J
230 DATA 0,60,3,70,3,80,3,90,3,100,3,1
00,3,0,0,108,10,108,10,108,10,81,20,64
,10,108,10,108,10,108,10,81,20
240 DATA 64,10,0,30,53,10,85,10,53,10,
96,10,53,10,96,10,53,10,91,20,102,10,1
08,10,108,10,85,20,72,10,108,10
250 DATA 108,10,108,10,85,20,72,10,0,5
0,53,15,47,5,53,10,60,10,64,10,72,10,8
1,20,40,20,0,0
260 DATA 121,40,91,30,91,10,91,80,121,
40,81,30,96,10,91,80,121,40,91,30,72,1
0,60,40,72,30,91,10,91,40,96,30
270 DATA 91,10,81,80,0,0,243,40,243,40
,243,10,243,40,204,40,217,10,217,40
280 DATA 243,10,243,40,255,10,243,60,0
,0,47,10,72,10,60,10,64,10,72,10,64,10
,60,10,72,10,0,0
290 HS=INT(ADR(SND$)/256):POKE 209,HS:
LS=ADR(SND$)-HS*256:POKE 208,LS:SOUND
3,0,0,0
300 DIF=1
310 REM ** DD$ is Screen Data **
320 DD$(1)="@":DD$(448)="@":DD$(2)=DD$
:DD$(449)=CHR$(0):DD$(828)=CHR$(0):DD$
(450)=DD$(449)
330 LINE1=ADR(DD$)+513:HL=INT(LINE1/25
6):LL=LINE1-HL*256:POKE 88,LL:POKE 89,
HL
340 POKE 559,0:GOSUB 1140:GOSUB 1330:G
OSUB 1530
350 GRAPHICS 0:POKE 756,START/256:GOSU
B 1380:POKE 559,0:POKE 560,0:POKE 561,
6:POKE 559,34:GOSUB 1710
360 A=USR(1670):VERT=8:GOSUB 1780:POKE
 88,LL:POKE 89,HL:POSITION 12,0:? DIF:
BRO=0
370 POKE 708,68:POKE 709,254:POKE 710,
86:POKE 711,44:POKE 712,72:POSITION 16
,7:? " courting crickets "
380 POSITION 2,0:? "dif level":RESTORE
 382:FOR J=1 TO 4:READ A:COLOR$(J,J)=C
HR$(A):NEXT J
382 DATA 228,36,4,230
390 DD$(613,652)="YYYYYYXXXXXYYYYYYXXX
XXYYYYYYXXXXXYYYYYY"
400 DD$(653,692)="YYYYYYXXXXXYYYYYYXXX
XXYYYYYYXXXXXYYYYYY"
410 DD$(693)="_":DD$(694)=CHR$(96):DD$
(695)="XX_":DD$(698)=CHR$(96):DD$(699)
="XX_":DD$(702)=CHR$(96)
415 DD$(769)="abXXabXXabX"
420 GN=0:WFLG=0:GIFT=0:DROP=0:DD$(552)
="XXXXXXXXXXXXXX":DD$(592)="XXXXXXXXXX
XXXX"
430 POKE 1622,15:DD$(712)=GF1$:DD$(788
)=GF2$
440 POSITION 16,7:? "SELECT dif or FIR
E":POKE 77,0
450 IF STRIG(0)=0 THEN 450
460 KEY=PEEK(53279):IF STRIG(0)=0 THEN
 500
470 IF KEY<>5 THEN 460
480 DIF=DIF+1:IF DIF>7 THEN DIF=1
490 POSITION 12,0:? DIF:GOSUB 1780:GOT
O 460
500 POSITION 16,7:? " COURTING CRICKET
S ":GOSUB 1000:DD$(712)="XX":DD$(788)=
"XX"
510 A=USR(ADR(STK$))
520 IF GIFT=1 AND YPOS=187 AND P>100 A
ND P<134 THEN GOSUB 820:GOSUB 790
530 IF PEEK(1743)=0 THEN FLAG=0
540 IF FLAG=1 THEN 580
550 S=PEEK(1743):IF S=2 OR S=1 THEN FL
AG=1:P0$(YPOS)=CRJ$:POKE 53767,170:POK
E 1591,1:FOR J=1 TO 20:NEXT J
560 IF S=2 AND VERT>0 THEN POKE 1767+V
ERT,0:P0$(YPOS)=BL$:YPOS=YPOS-16:P0$(Y
POS)=CR$:VERT=VERT-1:POKE 1767+VERT,1
570 IF S=1 AND VERT<8 THEN POKE 1767+V
ERT,0:P0$(YPOS)=BL$:YPOS=YPOS+16:P0$(Y
POS)=CR$:VERT=VERT+1:POKE 1767+VERT,1
580 P=PEEK(1791):IF P>190 OR P<60 THEN
 POKE 1767+VERT,0:GOTO 710
590 POKE 53278,0
600 FOR J=1 TO 10:NEXT J
610 IF PEEK(53252)>0 THEN POKE 1767+VE
RT,0:GOTO 710
620 IF YPOS=59 AND P>100 AND P<134 THE
N POKE 1767+VERT,0:GOTO 840
630 JPOS=JPOS+DELJ:IF JPOS>RTLJ OR JPO
S<LLJ THEN DELJ=-DELJ:JPOS=JPOS+2*DELJ
640 POKE 53250,JPOS
650 DRCNT=DRCNT-1:IF DRCNT<1 THEN DRCN
T=10+5*(10-DIF):DPOS=50:GOSUB 950:P3$(
DPOS)=DRP$:DROP=1:POKE 53251,JPOS
660 IF DROP=1 THEN P3$(DPOS)=BL$:DPOS=
DPOS+DELTA:P3$(DPOS)=DRP$:SOUND 1,DPOS
-40,10,10
670 IF DPOS>240 THEN GOSUB 820:DPOS=50
680 IF PEEK(53260)=8 THEN POKE 1767+VE
RT,0:GOTO 710
690 GOTO 510
700 REM ** Falling Cricket **
710 GOSUB 820
720 P0$(YPOS)=BL$:YPOS=YPOS+6:P0$(YPOS
)=CRF1$:SOUND 0,YPOS,10,10:FOR J=1 TO
30:NEXT J
730 P0$(YPOS)=BL$:YPOS=YPOS+6:P0$(YPOS
)=CRF2$:SOUND 0,YPOS,10,10:FOR J=1 TO
30:NEXT J:IF YPOS<240 THEN 720
740 SOUND 0,0,0,0
750 BRO=BRO+1:IF BRO=4 THEN 1030
760 J=4*(BRO-1):DD$(693+J,696+J)="XXXX
":DD$(769+J,772+J)="\]^X"
770 VERT=8:GOSUB 1710:POKE 1791,120:PO
KE 1622,15:GOTO 510
780 REM ** Erase Next Gift **
790 GIFT=0:GN=GN+1:GOSUB 1000:DD$(712+
GN*3)="XX":DD$(788+GN*3)="XX"
800 RETURN
810 REM ** Eliminate Drop **
820 SOUND 1,0,0,0:P3$(DPOS)=BL$:POKE 5
3251,0:DROP=0:RETURN
830 REM ** Reached Female **
840 GOSUB 820:POKE 1791,118
850 IF GIFT=0 THEN GOSUB 920
860 IF WFLG=1 THEN 1090
870 FOR K=1 TO 10:P1$(YPOS-14)=HT1$
880 FOR J=15 TO 0 STEP -1:SOUND 0,20,1
0,J:NEXT J:P1$(YPOS-14)=HT2$:FOR J=1 T
O 15:NEXT J:NEXT K
890 IF STRIG(0)=1 THEN 890
900 P0$(YPOS)=BL$:P1$(YPOS-14)=BL$:S=1
:GOTO 560
910 REM ** Print Gift **
920 GIFT=1:DD$(552)=GF1$(1,(GN+1)*3):D
D$(592)=GF2$(1,(GN+1)*3):IF GN=4 THEN
WFLG=1
930 RETURN
940 REM ** Pick a Weapon **
950 R=INT(RND(0)*4):RESTORE 960+10*R:F
OR J=1 TO 13:READ A:DRP$(J,J)=CHR$(A):
NEXT J:POKE 707,ASC(COLOR$(R+1))
952 RETURN
960 DATA 20,72,34,20,74,40,8,127,127,6
2,62,28,28
970 DATA 0,0,80,112,112,112,112,112,12
0,126,94,0,0
980 DATA 0,0,48,96,64,127,127,64,224,2
24,0,0,0
990 DATA 60,24,24,24,60,126,223,215,24
7,255,127,126,60
995 REM ** Pick Another Gift **
1000 POKE 1622,155:POKE 707,92:POKE 53
251,124+12*GN:FOR J=1 TO 5:P3$(205)=CU
R$:FOR K=1 TO 30:NEXT K
1010 P3$(205)=BL$:FOR K=1 TO 30:NEXT K
:NEXT J:RETURN
1020 REM ** No More Brothers **
1030 POKE 1622,131:POKE 53277,0:FOR J=
53261 TO 53264:POKE J,0:NEXT J:GRAPHIC
S 18:POSITION 4,3:? #6;"All Brothers"
1040 POSITION 6,4:? #6;"are Gone"
1050 POSITION 3,7:? #6;"PRESS start TO
":POSITION 5,8:? #6;"try again"
1060 IF PEEK(53279)<>6 THEN 1060
1070 GOTO 350
1080 REM ** Marriage Takes Place **
1090 POKE 1622,93:FOR L=0 TO 6:FOR K=0
 TO 3:POS=64*L+16*K:DD$(POS+1)="XXXXcd
XXXXcdXXXX":NEXT K:NEXT L
1100 FOR J=1 TO 1000:NEXT J
1110 POKE 53277,0:FOR J=53261 TO 53264
:POKE J,0:NEXT J:GRAPHICS 18:POSITION
3,3:? #6;"And They Lived"
1120 POSITION 1,4:? #6;"Happily Ever A
fter":GOTO 1050
1130 REM * Change character set *
1140 DIM ZZ$(32):RESTORE 1150:FOR I=1
TO 32:READ A:ZZ$(I)=CHR$(A):NEXT I
1150 DATA 104,104,133,204,104,133,203,
104,133,206,104,133,205,162,4,160,0
1160 DATA 177,203,145,205,136,208,249,
230,204,230,206,202,208,240,96
1170 POKE 106,PEEK(106)-5:START=(PEEK(
106)+1)*256
1180 A=USR(ADR(ZZ$),57344,START):RESTO
RE 1200:FOR I=START+512 TO START+807:R
EAD A:POKE I,A:NEXT I
1190 RETURN
1200 DATA 0,0,0,0,0,0,0,170,0,63,58,57
,58,63,63,170,0,252,172,108,172,252,25
2,170
1210 DATA 0,255,170,85,170,255,255,170
,0,51,33,18,33,255,85,170,0,191,239,25
1,254,255,255,170
1220 DATA 0,255,215,215,215,190,235,17
0,0,254,251,239,191,255,255,170,0,1,32
,184,32,12,3,16
1230 DATA 64,208,64,224,184,224,192,19
2,116,28,3,0,0,0,0,0,200,238,248,192,1
92,192,192,192
1240 DATA 0,0,0,0,2,2,3,3,0,0,0,0,128,
128,192,192,13,55,219,222,223,55,13,3
1250 DATA 112,220,247,247,247,220,112,
192,0,0,0,58,234,234,233,229,0,0,0,40,
234,170,154,86
1260 DATA 233,233,57,58,58,14,14,13,86
,90,90,104,104,160,160,128,0,3,12,48,1
92,192,48,12
1270 DATA 48,204,3,3,3,12,48,12,12,3,1
2,48,14,2,2,0,3,3,3,12,32,160,160,128
1280 DATA 0,0,0,0,0,0,0,0,233,181,173,
183,222,122,94,107,2,10,2,4,16,16,4,1,
128,160,128,16,4,4,16,64
1290 DATA 0,0,3,15,15,204,63,15,0,0,0,
207,204,255,255,195,0,0,240,48,48,48,2
40,240
1300 DATA 0,0,84,5,17,5,1,5,0,0,21,80,
68,80,64,80,17,65,1,4,4,20,0,0
1310 DATA 68,65,64,16,16,20,0,0,40,190
,179,176,176,44,11,2,80,244,52,52,52,2
08,64,0
1320 REM ** VBI Routine **
1330 DIM VBI$(75):RESTORE 1340:FOR J=1
 TO 75:READ A:VBI$(J,J)=CHR$(A):NEXT J
:VBI=ADR(VBI$):RETURN
1340 DATA 216,162,0,160,0,222,240,6,16
,42,189,224,6,157,240,6,189,232,6,240,
10,24
1350 DATA 173,255,6,125,248,6,141,255,
6,24,185,16,6,125,216,6,153,16,6,221,2
08,6,208,6
1360 DATA 189,200,6,153,16,6,200,200,2
00,232,224,7,144,201,173,255,6,141,0,2
08,32,57,6,32,88,6,76,98,228
1370 REM ** Display List in Page 6 **
1380 RESTORE 1390:FOR J=1536 TO 1679:R
EAD A:POKE J,A:NEXT J
1390 DATA 112,112,112,70,0,0,68,20,0,6
8,60,0,69,100,0,69,0,0,69,80,0,69,128,
0,69,208,0,69,0,0,69,80,0
1400 DATA 69,128,0,69,140,0,68,180,0
1410 DATA 68,0,0,70,40,0,65,0,6
1420 DATA 0,0,0,0,0,0,172,55,6,240,23,
206,56,6,16,18,177,208,141,6,210,200
1430 DATA 177,208,240,5,141,56,6,200,1
52,141,55,6,96
1440 DATA 0,0,172,86,6,240,40,206,87,6
,48,17,169,13,205,87,6,144,3,173,87,6,
9,160,141,5,210,208,18,177,208
1450 DATA 141,4,210,200,177,208,240,5,
141,87,6,200,152,141,86,6,96,104,160,0
,162,0,169,7,76,92,228
1460 RESTORE 1470:FOR J=1541 TO 1583 S
TEP 3:READ A:POKE J,HI+A:NEXT J
1470 DATA 2,2,2,2,0,0,0,0,1,1,1,2,2,3,
3
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1480 RESTORE 1490:FOR J=1736 TO 1791:R
EAD A:POKE J,A:NEXT J
1490 DATA 0,80,128,208,0,80,128,0,16,6
4,144,192,16,64,144,0,1,255,1,255,1,25
5,1,0
1500 DATA 20,12,9,12,15,18,21,0,0,0,0,
0,0,0,0,0,20,12,9,12,15,18,21,0,252,4,
252,4,252,4,252,120
1510 HV=INT(VBI/256):POKE 1674,HV:POKE
 1672,VBI-256*HV
1520 RETURN
1525 REM ** PM Images **
1530 RESTORE 1540:FOR J=1 TO 12:READ A
:CR$(J,J)=CHR$(A):NEXT J
1540 DATA 231,60,90,60,24,60,90,153,24
,36,36,102
1550 RESTORE 1560:FOR J=1 TO 12:READ A
:CRJ$(J,J)=CHR$(A):NEXT J
1560 DATA 66,36,60,90,60,153,126,24,24
,60,66,195
1570 BL$(1)=CHR$(0):BL$(13)=CHR$(0):BL
$(2)=BL$
1580 RESTORE 1590:FOR J=1 TO 12:READ A
:CRF1$(J,J)=CHR$(A):NEXT J
1590 DATA 195,36,60,90,60,25,62,88,156
,36,38,96
1600 RESTORE 1610:FOR J=1 TO 12:READ A
:CRF2$(J,J)=CHR$(A):NEXT J
1610 DATA 195,36,60,90,60,152,124,26,5
7,36,100,6
1620 RESTORE 1630:FOR J=1 TO 12:READ A
:CRM$(J,J)=CHR$(A):NEXT J
1630 DATA 66,165,60,90,36,24,126,153,6
0,126,36,102
1640 RESTORE 1650:FOR J=1 TO 12:READ A
:HT1$(J,J)=CHR$(A):NEXT J
1650 DATA 0,216,248,248,112,32,0,27,31
,31,14,4
1660 RESTORE 1670:FOR J=1 TO 12:READ A
:HT2$(J,J)=CHR$(A):NEXT J
1670 DATA 0,27,31,31,14,4,0,216,248,24
8,112,32
1680 RESTORE 1690:FOR J=1 TO 12:READ A
:CUR$(J,J)=CHR$(A):NEXT J
1690 DATA 68,238,254,254,254,254,254,1
24,124,56,56,16
1700 REM ** PM Init. **
1710 P0$(1)=CHR$(0):P0$(256)=CHR$(0):P
0$(2)=P0$:YPOS=187:P0$(YPOS)=CR$
1720 P1$(1)=CHR$(0):P1$(256)=CHR$(0):P
1$(2)=P1$:P2$(1)=CHR$(0):P2$(256)=CHR$
(0):P2$(2)=P2$
1730 P3$(1)=CHR$(0):P3$(256)=CHR$(0):P
3$(2)=P3$:P1$(60)=CRM$:P2$(44)=CR$:JPO
S=100:DELJ=3:RTLJ=200:LLJ=50:DELTA=6
1740 POKE 54279,HI:POKE 559,62:POKE 53
277,3:POKE 53248,120:POKE 704,116:POKE
 53249,126:POKE 705,92
1750 POKE 53250,100:POKE 706,20:POKE 7
07,0:POKE 623,1
1760 RETURN
1770 REM ** Packages on Belts **
1780 DD$(1)="@":DD$(448)="@":DD$(2)=DD
$
1790 FOR J=1760 TO 1766:SPEED=RND(0)*(
9-DIF)*4+(7-DIF):IF DIF>3 THEN SPEED=S
PEED*1.8
1792 POKE J,SPEED:NEXT J
1800 FOR L=0 TO 6:RESTORE 1850+10*L:RE
AD F$:FOR K=0 TO 3
1810 POS=64*L+16*K:DD$(POS+1)=F$
1820 IF DIF>3 THEN DD$(POS+9)=F$
1840 NEXT K:NEXT L:RETURN
1845 REM ** CHAR. IN 1860,1880 & 1900
ARE INVERSE **
1850 DATA ACB
1860 DATA ACB
1870 DATA DDD
1880 DATA EFG
1890 DATA EFG
1900 DATA DDD
1910 DATA EFG
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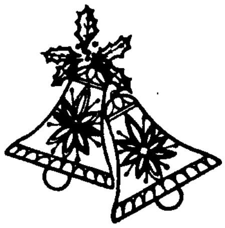

BOOK REVIEW

THE ELEMENTARY ATARI by William B. Sanders.
Distributed in Australia by Prentice-Hall. R.R.P. $23.95
Reviewed by Raul Aiello.

After carefully studying this book I feel that it does exactly as its name implies -it teaches you BASIC programming, from elementary beginners topics such as PRINT, CSAVE, CLOAD, etc. through to the more advanced topics like Player Missile Graphics and Printer Graphics.

Being a beginner in BASIC myself, I found the book to be very helpful. It gave plenty of detail on every topic I wanted and at the same time is written in an uncomplicated and friendly manner -implying that there is no need for any novice to be scared of their computer! The book also has some amusing pictures and jokes in it, which makes it a little more enjoyable.

I like the way the book has been presented, having a spiral binding which means the book is easily left open while sitting beside your computer.

I do however, feel that the book is slightly overpriced considering its content, but can thoroughly recommend it to any beginners who would like to learn how to use their Ataris more effectively. It is an excellent production!

Shakespeare and the Computer

Extracted from "The Official Computer Hater's Handbook".
by Stephen Lewis (reprinted from Computerise Utah, Vol.3 issue 1)

About computer Manuals (Hamlet II,2)

"Though this be madness, yet there is method in't."

About peripherals (Hamlet I,3)

"Costly thy habit as thy purse can buy"

About program bugs (Hamlet IV,5)

"When sorrows come, they come not single spies, but in battalions."

On computer salesmen (Hamlet I,5)

"One may smile, and smile, and be a villain."

On meeting people via the BBS (The Tempest II,2)

"Misery acquaints a man with strange bedfellows."

P.S. From a computer widow comes the remark- "It would be nice if computer languages were dead languages."

Add A Numeric Keypad

by Chris Fitzgerald. (Clyde, N.S.W.)

This article follows on from an article in the June 1984 issue of Inside Info (No.13). The article, by Peter Bamford explained how to wire up an extra keyboard for your Atari and mentioned that I had wired a numeric keypad which would connect to the same connection.

I have assumed that you have already carried out the wiring of the socket on the computer itself as explained in the abovementioned article, so here is the stuff you'll need to build the numeric keypad:-

1) Keypad -from Dick Smith Electronics. It comes on a printed circuit board at a cost of $19.95. Catalogue Number 3622.

2) Ribbon Cable -at least 11-conductor. I used 1 metre of rainbow cable.

3) 25 pin female 'D' Type connectors with cover.

It is possible to buy your own keys (you'd need fourteen) and wire them up and mount them -but at $1.50 each the unit would cost $21 just for the keys.

THE PROCEDURE

Figure 1 (below) shows the layout of the printed circuit board on the suggested numeric keypad. This board is manufactured by "HI TEK" and is labelled "LK03A NUMERIC KEYPAD". This diagram is a view from the back -the side you'll be working on. Since this circuit isn't totally suited for what we want, it needs to be altered before final wiring.

1 There are three points marked with an "X" in figure 1. Use a sharp knife or some tool to cut through the printed circuit "traces" at these points.

2 Next, some extra "traces" need to be added in the form of short lengths of wire. Figure 1 shows these points labelled from "A" to "I". In sequence, wire:- A-A B-B C-C-C D-D E-E F-F G-G H-H and I-I.

HINTS: 1) Tin all wires before actually soldering.

2) Follow the diagram closely, connecting wires in the sequence shown.

3 On diagram 1 you will also notice that there are eleven points labelled using numbers between 1 and 17. These are the pin numbers to which these points should be connected (using the rainbow cable) on the female 'D' connector. The pin numbers (1-25) are on the actual connector -if you look closely you'll see them and avoid wiring errors. If you get your own keys and connect them up yourself, then follow the pin numbers on the arrows in Figure 2.

HINT: I recommend that you follow a colour coding sequence to make things a little easier. It isn't possible to follow the exact colour coding of the connections mentioned in the previous article without splitting the cable into several segments. To avoid this I used some other colours -diagram 3 indicates the colours I used, if the colour is underlined it follows previous convention.

4 After finishing the wiring you should be able to plug the key pad into the socket you added to your Atari before -it should work just as if it was part of your normal keyboard. Check that all the keys operate as they should -if not, recheck all the connections for bad joints or short circuits. Also, check to see you have No.1 to No.1 etc.

I haven't mounted my keypad yet, but it should be an easy job -especially with the PC Board on it.

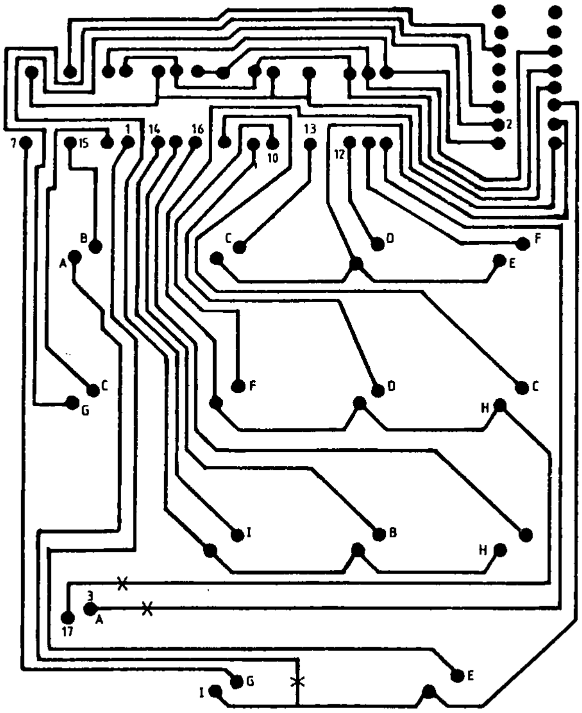

Figure 1
Printed Circuit Board Wiring Diagram
(viewed from back)

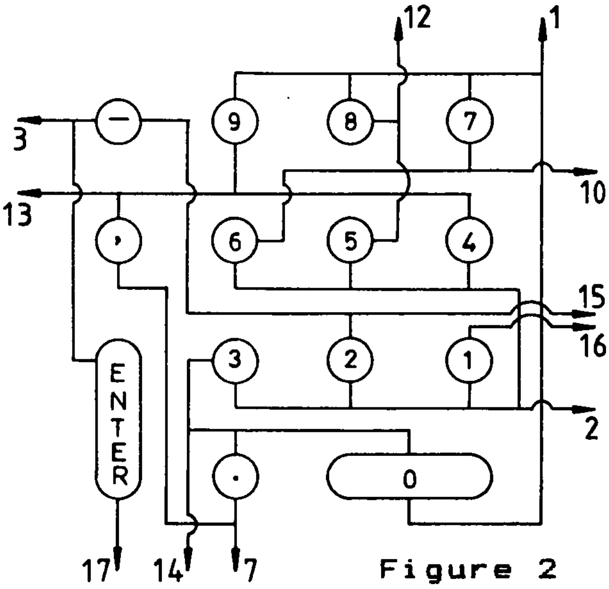

Figure 2
Key Wiring Diagram
(viewed from back)

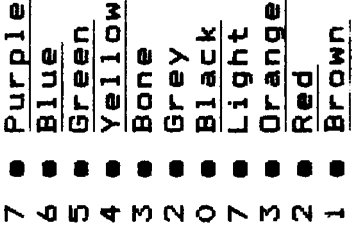

Figure 3
Suggested Key Pad Colour Coding

Strings and Formatting

ATARI Demopac #1 (Revision 2, September 1982)

STRING HANDLING

ATARI 8K BASIC vs. ATARI Microsoft BASIC

The major difference between ATARI Microsoft and ATARI 8K BASIC is in the handling of string variables. Here is an overview of the ATARI 8K approach to strings, and a comparison with the ATARI Microsoft method.

It is often necessary to split strings into pieces called substrings. In ATARI Microsoft BASIC, this is accomplished with special functions, MID$, RIGHT$ and LEFT$. In ATARI 8K BASIC, strings are split easily by using a subscript on the string variable. For example, A$(5,10) results in a substring which starts at the fifth character of A$ and ends at the tenth character. If only one number is given in the subscript, the substring will start with that character and end with the last character of the string. Here is a table of the ATARI 8K equivalents of ATARI Microsoft string functions:

ATARI Microsoft:	ATARI 8K:
MID$(A$,X,Y)	A$(X,Y)
LEFT$(A$,X)	A$(1,X)
RIGHT$(A$,X)	A$(LEN(A$)-X+1)

The function LEN(A$) is the same in both types of BASIC, and returns the length, or number of characters (including blanks) of the string A$. This function is also used in concatenation of strings, that is, putting two strings together into one string. In ATARI Microsoft, concatenation is accomplished with a plus sign. In ATARI 8K, the second string is concatenated to the first by making it a substring which starts just after the last character. Here is an example of two types of concatenation in both BASICs:

ATARI Microsoft:	ATARI 8K:
A$=A$+B$	A$(LEN(A$)+1)=B$
C$=A$+B$	C$=A$
	C$(LEN(C$)+1)=B$

In ATARI Microsoft, the subscript on the string indicates a string array, which is handled just like a numeric array. In ATARI 8K BASIC, however, a string is kept in a very long string, which is put together using concatenation, and taken apart with string splitting, as shown above.

Here is an example of a simple string array in both types of BASIC:

ATARI Microsoft:	ATARI 8K:
A$(1)="AAA"	ARRAY$="AAABBBCCC"
A$(2)="BBB"	ARRAY$(1,3)="AAA"
A$(3)="CCC"	ARRAY$(4,6)="BBB"
	ARRAY$(7,9)="CCC"

When using the long-string method, it is often helpful to make all of the substrings in the array the same length, so that it is easy to calculate the position in the array. This can be done by padding the smaller substrings with blanks. Remember, blank

```
1 REM ###############################
2 REM #         STRING ARRAY        #
3 REM #      ATARI Demopac #1       #
4 REM #          March 1982         #
5 REM # Reprinted by A.C.E.(N.S.W.) #
6 REM #        December 1984        #
7 REM ###############################
10 REM STRINGARRAY
20 REM WBB/JB 3/82
30 REM a demonstration of the use of a
 long-string variable
40 REM to emulate a string array.
50 REM This example keeps a list of
customer names.
60 REM It will handle up to 100 names,
 each up to 30 characters long.
70 REM *****************************
80 DIM ARRAY$(100*30),NAME$(30),BLANK$
(30),YN$(1)
90 REM array$ holds 100 names
100 REM name$ is used to accept input
name
110 REM blank$ is used to blank-fill,
so that lengths are even
120 REM yn$ accepts yes/no answers
130 BLANK$="
  ":REM initialize 30-space string
140 FOR I=1 TO 100:REM initialize long
-string to reserve memory space
150 ARRAY$(I*30-29,I*30)=BLANK$
160 NEXT I:REM fill w/spaces-length of
 array$ is now 3000
170 REM ****************************
180 REM get customer number and verify
 that it doesn't already exist
190 PRINT :PRINT "CUSTOMER NUMBER (1-1
00) (0=END)";
200 INPUT I
210 IF I=0 THEN 410:REM if it's the
end, go print the list
220 IF ARRAY$(I*30-29,I*30)=BLANK$ THE
N 320:REM if new number, go get name
230 PRINT "CUSTOMER NUMBER ";I;" IS AS
SIGNED TO:"
240 PRINT ARRAY$(I*30-29,I*30)
250 PRINT :REM if number is already in
 use, print out number and name
260 PRINT "DO YOU WISH TO REPLACE WITH
 NEW NAME (Y/N)";
270 INPUT YN$
280 IF YN$="N" THEN 190
290 IF YN$="Y" THEN 260
300 REM if you want to replace it or
it's a new number, go ahead
310 REM ****************************
320 PRINT "CUSTOMER NAME ";
330 INPUT NAME$:REM get new name
340 REM fill up name with blanks, in
case it is less then 30 characters
350 NAME$(LEN(NAME$)+1)=BLANK$
360 REM concatenate new name into
array
370 ARRAY$(I*30-29,I*30)=NAME$
380 GOTO 190:REM go get the next one
390 REM ****************************
400 REM print out the customer list
410 PRINT "DO YOU WANT TO PRINT THE CU
STOMER"
420 PRINT " LIST ON THE SCREEN (Y/N) "
;
430 INPUT YN$
440 IF YN$="N" THEN 530
450 IF YN$<>"Y" THEN 410
460 REM if the answer is yes, go ahead
 and print on screen
470 PRINT "NUMBER","CUSTOMER NAME":PRI
NT
480 FOR I=1 TO 100
490 IF ARRAY$(I*30-29,I*30)<>BLANK$ TH
EN PRINT I,ARRAY$(I*30-29,I*30)
500 NEXT I
510 PRINT :PRINT "** END OF LIST **":P
RINT
520 REM ****************************
530 PRINT "DO YOU WANT TO PRINT THE CU
STOMER"
540 PRINT "LIST ON THE PRINTER (Y/N)";
550 INPUT YN$
560 IF YN$="N" THEN END
570 IF YN$<>"Y" THEN 530
580 REM if the answer is yes, go ahead
 and print on printer
590 LPRINT "NUMBER","CUSTOMER NAME":LP
RINT
600 FOR I=1 TO 100
610 IF ARRAY$(I*30-29,I*30)<>BLANK$ TH
EN LPRINT I,ARRAY$(I*30-29,I*30)
620 NEXT I
630 LPRINT :LPRINT "** END OF LIST **"
:LPRINT
640 END
```

DOUBLE-SUBSCRIPTS

Emulating Two-Dimensional String Arrays With ATARI 8K BASIC

ROW	COL→1	2	3	4
1	x x x 1 2 3	x x x 4 5 6	x x x 7 8 9	x x x 10 11 12
2	x x x 13 14 15	x x x 16 17 18	x x x 19 20 21	x x x 22 23 24
3	x x x 25 26 27	x x x 28 29 30	x x x 31 32 33	x x x 34 35 36

```
A$="xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"
  1,2,3...                          ...35,36
```

To find the starting location of a particular substring in the array A$, use the following formula:

((COL-1)*CHAR)+((ROW-1)*CHAR*NUMCOL)+1

ROW = row number
COL = column number
CHAR = number of character per element of array
NUMCOL = total number of columns

In the example given, CHAR=3, and NUMCOL=4. In order to find the starting location of A$(ROW,COL), where ROW=2 and COL=4, perform the following calculation:

((4-1)*3)+((2-1)*3*4)+1=
((3)*3)+((1)*3*4)+1=
(9)+(12)+1=22

Thus, the starting character of substring A$(2,4) is character number 22. This substring is addressed as A$(22,24).

```
1 REM ###############################
2 REM #       INVERT A STRING       #
3 REM #      ATARI Demopac #1       #
4 REM #         March 1982          #
5 REM # Reprinted by A.C.E.(N.S.W.) #
6 REM #        December 1984        #
7 REM ###############################
10 REM INVERT A STRING
20 REM PY/JB 3/82
30 REM turn a string into inverse
video
40 REM ******************************
50 DIM NAME$(50):REM dimension a
string to a length of 50 characters
60 TRAP 60:PRINT "TYPE IN A NAME"
70 INPUT NAME$
80 FOR I=1 TO LEN(NAME$):REM go
through characters one at a time
90 NAME$(I,I)=CHR$(ASC(NAME$(I,I))+128
)
100 REM add 128 to each character
number to make it inverse video
110 TRAP 40000:NEXT I
120 PRINT NAME$:REM display inverse
name
130 GOTO 60:REM try another one
```

FORMATTING WITH THE COMMA

The comma in a PRINT statement sets up 10 spaces between each field with the default line length of 38 characters. This results in diagonal lines rather then columns. For an example of this, press RESET and type:

```
PRINT 1,2,3,4,5,6,7,8
```

The left margin is controlled by location 82. For a full 40 column line, change the left margin to column 0 with POKE 82,0. Since 10 goes into 40, you will get regular columns. Press RESET and type:

```
POKE 82,0:PRINT 1,2,3,4,5,6,7,8
```

You may also regulate the print zone for the comma with location 201. This example gives 7 spaces between fields, then resets the width to 19. Press RESET and type:

```
NEW
10 POKE 82,0:REM allow 40 characters
20 POKE 201,8:REM set comma spacing to 7
30 PRINT 1,2,3,4,5,6,7,8,9,0,1,2,3:REM print to
   screen
40 POKE 201,20:REM reset comma spacing to 19
50 PRINT 1,2,3,4,5,6,7,8,9,0,1,2,3:REM print to
   screen
```

** Remember to add one space in formatting to get desired column widths **

You may also shorten the right margin by using POKE 83. The default is 39. This example sets a 30 column screen. Press RESET and type:

```
NEW
10 POKE 82,1:REM start left margin in position 1
20 PRINT "This line has old margins of 2 and
   39":REM the next line has the new margins
30 POKE 83,30:REM stop right margin in position 30
40 PRINT "1234567890123456789012345678901234567890
   1"
```

FORMATTING WITH THE POSITION STATEMENT

Words as well as numbers can be put on the screen through the use of the POSITION statement. In the following example, the word "ATARI" is positioned on the screen three times by designating the X and Y co-ordinates in three POSITION statements. Press RESET and type:

```
NEW
10 POSITION 8,2:PRINT "ATARI":REM go to position
8,2 and print word
20 POSITION 18,12:PRINT "ATARI":REM go to position
18,12 and print word
30 POSITION 28,22:PRINT "ATARI":REM go to position
28,22 and print word
40 GOTO 40:REM keep it on the screen
```

POSITIONING IN GRAPHICS WINDOW

The POSITION statement can also be used to write information in the graphics window of text modes 1 and 2. Press RESET and type:

```
NEW
10 GRAPHICS 2
20 POSITION 5,5:REM position cursor in row 5,
column 5
30 PRINT #6;"ATARI"
40 GOTO 40:REM keep it on the screen
```

FORMATTING with ATARI 8K BASIC

Every computer has some way of placing text where you want it, in order to create exactly the effect you need, most computers have special formatting commands. With ATARI 8K BASIC, there are several methods to choose from depending on your needs. Using the TAB key allows quick movement across the screen to a designated column. Using a comma in the PRINT statement will automatically allow a number of spaces between fields. The POSITION statement can be used to put the cursor in any specified row or column, in any mode. In addition to these basic methods, there are special procedures for formatting printed output, and for such functions as right alignment. Here is a brief description of various formatting options with examples.

FORMATTING WITH TAB KEY

In order to produce the control characters for TABing, the following key sequences are used. These characters will appear on your screen but not in a program listing.

TAB: ▸ **Press the ESC key, then the TAB key**

CLEAR TAB: ⍇ **Press the ESC key, then the CTRL and TAB key simultaneously**

SET TAB: ⍈ **Press the ESC key, then the SHIFT and TAB key simultaneously**

On powerup, the TAB key advances the cursor to 5 default settings on one physical line. These are column positions 7, 15, 23, 31, and 39. To clear the default TAB setting, type:

```
PRINT " ▸⍇▸⍇▸⍇▸⍇▸⍇"
```

After the ready prompt appears, press the TAB key. The cursor will remain in the first column. To set new tabs type:

```
PRINT "(10 spaces)⍈(10 spaces)⍈(10 spaces)⍈"
```

If the TAB key is now pressed, the cursor stops in columns 2, 12, 22, 32.
** Remember to add one space in formatting to get desired column widths. **

To set formatted columns from within a program requires planning on the part of the programmer.
The following program illustrates 8 columns with 5 spaces between each. These will then be cleared out to set up 3 columns with 16 spaces between each. Press RESET and type:

```
NEW
10 PRINT "▸⍇▸⍇▸⍇▸⍇▸⍇":REM clear out de
fault tabs
20 PRINT "(6 spaces)⍈(6 spaces)⍈(6 spa
ces)⍈(6 spaces)⍈(6 spaces)⍈(6 spaces)⍈
":REM set columns
30 PRINT "A▸B▸C▸D▸E▸F▸G▸H▸I▸J▸K▸L▸M▸N"
:REM use tab to separate fields
40 PRINT "▸⍇▸⍇▸⍇▸⍇▸⍇▸⍇":REM clear colu
mns
50 PRINT "(17 spaces)⍈(17 spaces)⍈(17
spaces)⍈":REM set new columns
60 PRINT "A▸B▸C▸D▸E▸F"
```

TABing brings columns to the next print zone as long as the length of the string is smaller than the print zone.

POSITIONING IN TEXT WINDOW

The POSITION statement moves the cursor in the graphics window. If you wish to position the cursor in the text window, you must POKE directly into the text window cursor locations, 656 and 657 (decimal). Press RESET and type:

```
NEW
10 GRAPHICS 2
20 POKE 656,0:REM move cursor to row 0
30 POKE 657,2:REM move cursor to column 2
40 PRINT "LINE 0":REM type "LINE 0" in this
   position
50 POKE 656,1:REM move cursor to row 1,
60 POKE 657,12:REM move cursor to column 12
70 PRINT "LINE 1":REM type "LINE 1" in this
   position
80 POKE 656,2:REM move cursor to row 2
90 POKE 657,22:REM move cursor to column 22
100 PRINT "LINE 2":REM type "LINE 2" in this
    position
110 POKE 656,3:REM move cursor to row 3
120 POKE 657,32:REM move cursor to column 32
130 PRINT "LINE 3";:REM type "LINE 3" in this
    position
140 GOTO 140:REM keep it on the screen
```

RIGHT ALIGNMENT

If your strings are not the same length, pad the shorter one with spaces. The following example illustrates a string being concatenated to a string of spaces to allow for a three character number. Press RESET and type:

```
NEW
10 DIM A$(2),B$(3):REM dimension strings
20 PRINT "Type in a one or two digit
   number...";:INPUT A$
30 ALEN=LEN(A$)
40 B$="(insert 2 spaces)":REM a string of spaces
50 B$=B$(1,3-ALEN):REM allow a three digit number
60 B$(LEN(B$)+1)=A$:REM concatenate the strings
70 PRINT LEN(B$)
80 PRINT B$:REM note indent from left side of
   screen
```

PRINTER FORMATTING

Tabs on the printer can be set with a string of spaces, as in the following example. Press RESET and type:

```
NEW
10 DIM TAB$(80),A$(35):REM dimension strings
20 X=25
30 TABS$="(insert 80 spaces)":REM set up a string
   of spaces
40 A$="This line is indented by 25 spaces":REM
   message to be printed
50 OPEN #1,8,0,"P:":REM open printer for output
60 PRINT #1;TAB$(1,X);A$:REM output to the printer
70 CLOSE #1
```

☆

PROGRAM REVIEW

SPELL WIZARD

Reviewed by Chris Fitzgerald. (Clyde, N.S.W.)

SPELL WIZARD is an excellent, very user friendly, spelling checking program marketed by DATASOFT Inc. It is a two part program which comes on two disks (one side per disk)- the auto-boot program and the MAIN DICTIONARY. The disks are presented in a small ring binder with clear, concise instructions and costs about $139.00 in Australia -I got my copy from the States for $US47.00 plus duty.

While SPELL WIZARD has it's own dictionary, it does not give the meanings for words, nor does it check that the words you use are used in correct context -it is purely an aid to check and correct spelling.

On booting the program disk you are presented with four options: PROOF DOCUMENT, PRINT DICTIONARY, SEARCH DICTIONARY and EXIT SPELL WIZARD. You step through these options by pressing the OPTION key and execute the option by pressing the START key. For my own convenience I'll cover these options in reverse order.

EXIT SPELL WIZARD This allows you to instantly boot any disk-based program (i.e. word processor) after prompting you to place the disk into the drive.

SEARCH DICTIONARY The program asks you to enter the word you would like to look up. You can either enter the whole word or, if you are uncertain of the spelling, the first few characters of the word followed by an asterisk (*) which the program accepts as a wild card (NOTE: You cannot start the word with a wild card!). You are then instructed to place the MAIN DICTIONARY into the disk drive and press RETURN. The dictionary is searched and the relevent word(s) is displayed on the screen. One problem here is that the program only allows five words to be displayed on the screen at a time. If there are more than five words found in the dictionary they will scroll up the screen at phenomenol speed and although you can interupt the scrolling by using the SPACE BAR, you need mighty fast reflexes to stop at the correct word. You can then return to the MAIN MENU. I feel that it would have been handy to be able to check the user dictionary as well as the main dictionary. Another drawback for us Aussies is that the main dictionary contains Yank spelling and can't be altered -you just have to lump it.

PRINT DICTIONARY This option is exactly the same as the SEARCH DICTIONARY option except that it lists the words to the printer in four columns. An error message is displayed if the printer is not available.

PROOF DOCUMENT This is the most important option, the one that allows you to check the spelling of any DOS II format file which has been created by a word processor (i.e. in LISTed form).

Firstly, you are prompted to put the word processor files (DOCUMENTS disk) into the disk drive and press RETURN. A two column disk directory is then displayed and you are prompted to enter the name of the file you wish to check.

The document file is then 'read' as the program compiles a "list" of all the UNIQUE words used in the document. SPELL WIZARD saves time by checking each word only once -although a word may be used several times in a document it is only recorded in the unique words "list" once. While all this is happening, a read-out is given showing the total number of words in the document as well as the unique words used.

Once this process is finished you are prompted to place the MAIN DICTIONARY into the disk drive and press RETURN. Your spelling is then checked against this 30,000 word dictionary with the words being "crossed-off" the "unique words" list as they are found. You are then asked if you would like to check the remaining words against a USER DICTIONARY (one compiled by yourself). Doing this is much the same as using the main dictionary only you will be asked to enter the filename of your dictionary.

When finished checking dictionaries, you can check any words which weren't found, individually. Your document disk is again read by the program and each word that wasn't "crossed-off" the list is presented for you to correct or accept. I had a few problems with this since I tended to automatically press the relevent keys and continue past incorrectly spelled words -and it's impossible to go back and correct the word. At this point you are also allowed to check the main dictionary for correct spelling but you can't check your user dictionary. Having checked your spelling, you may then "write" your document back to disk with the corrections already carried out. You then have the option of adding these extra words to your USER DICTIONARY.

USER DICTIONARY After having checked four issues of Inside Info, I now have a user dictionary of about 661 words. This is made up from jargon and specialized words such as Atari, filename, joystick, etc. These words are easily added to the user dictionary, you can either write all of the words to the dictionary in one go, or select the words of your choice, one at a time. SPELL WIZARD will recognize any alphabet character or series of characters as a word i.e. 'N.S.W.' is recognized as three different words!

OTHER COMMENTS SPELL WIZARD can also be booted with two disk drives. I've found that if you put your user dictionary on your documents disk, you won't need to keep swapping disks around -a real time saver!

SPELL WIZARD is a cinch to use and it doesn't take very long to run. A nice touch is that no matter which option you use, you can return to the main menu by hitting SYSTEM RESET. I'm very happy with my investment -especially for editing INSIDE INFO.

As a matter of interest this article has a total of 997 words with 372 unique words. It took around 3 hours to write and about 6 minutes to check on SPELL WIZARD.

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Article Submission Guidelines

by Chris Fitzgerald.

I'm sorry to have to end my year as temporary (?) Editor on a sour note but there have been several problems I've had to overcome as Editor of Inside Info. The purpose of this article is to try and eliminate them for Ken Shiu as he takes over the job. Please note them and try to stick by them -it'll make a difficult job a little easier.

WE NEED ARTICLES

Lately it seems that we are printing more and more articles from other users' group magazines. Knowing that we have a membership of around two hundred and fifty, I can't understand why we aren't getting more input from our members. Inside Info is supposedly the 'voice' of Atari Computer Enthusiasts New South Wales but it seems that the club has very few voices. If our members aren't prepared to support the magazine there is the possibility that Inside Info could be greatly reduced in size or even discontinued! The club needs YOUR help -start asking yourself what you can do for the club!

REVIEWS

If you buy a book, program or item of hardware and you don't think it's been reviewed in Inside Info before give your fellow members the benefit of your experiences -write a review.

Are you happy with it?
Was it worth the money?
Does it do what it claims to do or should others give it a big miss?
Where did you buy it and what did it cost?

Always remember to give the name of the manufacturer or distributor along with the recommended retail price at the head of the article.

If the item was no good you can warn others and save them some money. If it was good you can put others onto a good thing.

HINTS/TIPS

All of us get little tidbits of useful information as we muck around and explore our Ataris or programs for the Atari. Let everyone else know -through Inside Info.

PROGRAMS/ARTICLES

Most of us bought our Ataris to write programs on. In the past year only eleven people have submitted programs for the magazine -that's only 4.4% of our membership! Again, there are no programs written by our own members in this issue!

Assuming that you'll be submitting some programs for Inside Info ALWAYS write an article (no matter how small) to go with it. Explain what the program does and how to use it -screen by screen if necessary. Don't leave the article for the Editor to write.

FEEDBACK

We need feedback! Without feedback Inside Info will become a magazine which won't be of interest to you because it won't be able to meet your needs.

ARTICLE SUBMISSIONS

Copy your article or program onto your own media and check that it can be loaded back into the computer. If you need your media back in a hurry, it can be copied and mailed back to you as soon as possible -this'll make things a bit easier. Don't forget to put your name and address on your disks, cassettes or whatever.

Use DOSII, Single Density

The Club has opted to keep using DOS II in single density format since virtually everyone has access to it. It is tricky to convert DOS 3 back to DOS II and most people only have single density disk drives. These instructions are now included on the information sheet on page 2.

Put articles on disk or tape

It will save a lot of time and be heaps more convenient if your article is provided on either disk or tape rather than hand written. Not everyone is a good typist (including us so-called Editors!) and it takes a long time to type one page of Inside Info -try it and you'll see what I mean.

Don't worry about formatting your articles except maybe for paragraphing.

If you just want to put a short add or notice or something in Inside Info, just write it out and hand it to the Editor -don't rely on his memory, or you may be disappointed.

Word processors

Any DOS II based word processor such as Atariwriter or the Atari Word Processor is suitable for writing articles for Inside Info. LJK's Letter Perfect is not suitable unless you convert the text file to a DOS II format using LJK's file utility disk.

There are also a few other public domain word processors such as Scriptor which was originally printed in SoftSide magazine. The Editor in ACTION! is also suitable for preparing text files.

TinyText

In Inside Info number 14 (August 1984) a BASIC program listing for a word processor called 'TinyText' was printed. This word processor will work with either cassette or disk based systems. If you don't want to type it in, it is available from the software exchange on "Inside Info Volume 3".

BASIC

Alternately you can use BASIC REM or DATA statements to write your article -just LIST it to disk or tape when you finish.

ASSEMBLER/EDITOR

This cartridge can also be used as a word processor. In the EDIT mode and using line numbers you can type 3 screen lines of text before hitting RETURN. Blank lines can be inserted by typing 'ESC CONTROL +' or 'ESC CONTROL *' then RETURN. You can use 'LIST#D:FILENAME' to write you text to disk with line numbers or 'PRINT#D:FILENAME' to write to disk without line numbers -the latter is preferred. These functions can also be carried out using a cassette.

MEET THE DEADLINES

Deadlines are marked on the meetings dates on the information sheet on page 2 with a '#'. It is important that you give the Editor as much time as possible to get your article (and others) ready for print. Even though the date is a month ahead of the release date, it takes one to two weeks to get printed, folded and mailed. If you're going to be late, let the Editor know -he may not be able to do it in the time.

Several people have promised articles which I've counted on receiving but they just never arrived. That meant that I had to find other articles at the last minute -not an easy situation.

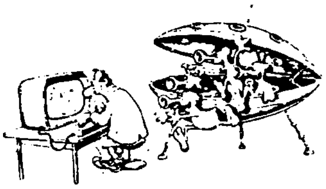
TYPING

At the October meeting I handed out a lot of articles from other users' group magazines to people for typing. I really thought that I'd get some of them back at the November meeting -but nothing!

Fortunately I haven't needed them but please make sure you either type them or return them to the Editor, the copies you have are the only ones I made and the pile of newsletters those copies came from was at least 6 inches thick!!!! No one wants to read all that again.

EPILOGUE

Well I've finished my whingeing, it really won't bother me too much if none of these guidelines are followed but I know what's in store for the new Editor if they aren't. I can only say I'm glad to have the burden of Inside Info lifted from my shoulders! I'll enjoy my new found freedom.



DISKussion

by Ken Scalley. (Winston Hills, N.S.W.)

This month I am going to talk about something that a few people have asked to see in this column -disk copy protection techniques.

Before I start, I want to make two things clear:-

1) I am not going to go into the pro's and con's of piracy.

2) This article will not show you how to copy your protected disks. It will however show you why you can't!

That having been said, on with the story. Once upon a time, when manufacturers started to protect their disk based games, they relied on the fact that Atari DOS, when copying a disk, could only copy sectors marked as being in use. The method was thus to include some data in a sector not marked as in use, and to check for that data before allowing the program to run. Programs that copy all sectors on a disk (not just those in use) soon got around this method of protection.

The next protection system was based on having a "bad" sector (a sector that the drive can't read) on the disk. The program could then check if the relevant sector was bad (that is, it returned error 144 when read... crunch ...crunch!!!!!) Since it is not possible to simply write a bad sector with an 810 drive, this became a very popular protection technique. However, someone eventually found that by changing the disk drive speed and then writing a sector, the sector would return an error 144 when read back at normal speed.

We now move on to the systems mostly in use at the present time. Protection systems have become very sophisticated! One popular method is to have bad sectors, but not only do the programs check that the sectors are bad, but also for pieces of data stored in those sectors.

Another method is to have two (or even more) sectors on the disk with the same sector number, but containing different data. The disk drive, when reading a sector, will always read the first sector it finds with the required sector number. By reading sectors in a particular sequence, the drive can be forced to read both of the duplicate numbered sectors. If the data in these sectors is the same (which of course is the case if the disk has been copied on a normal drive, and thus only one sector is actually on the disk), then the program can decide that the disk is a copy and print out a message (or format your disk or blow your drive up, or whatever!). This method in particular, is very speed dependent and complicated to install.

The last two methods (that I know about!) are very new. The first is similar to the double sectors system described above but the checking for these sectors occurs on two tracks. This necessitates the two tracks on the copied disk to not only contain the correct data, but to also be positioned in the exact, corresponding position on the disk, otherwise the protection system will cause the program not to load.

The second method involves writing a track of sectors at a speed slower than normal. If the speed is not too different to normal, the sectors will read back without errors, but more than 18 sectors (which is the normal case) can be fitted on the track. The program can then check if all these sectors are present on the disk and abort if they aren't.

Well, that's about all I know on protection techniques that are used to protect Atari disks (at the time of writing). If only a fraction of the cost and ingenuity involved in protecting disks could be used to write better programs...... I have seen some disks that have been very interesting to me in the method in which they have been protected, but the game..!? (Japanese sting rays spring to mind...)

That's all for this month... now you can go and read interACTION! which is elsewhere in this issue (it had better be there! -this article checks for it and won't load unless it is!)

Ken Scalley (all rights preserved).

Tramiel Report

by Michael Farber.

(Reprinted from Central Jersey Users' Group Newsletter -Sept./Oct. 1984.)

Mr Tramiel has made public his plans for the future of Atari. Before I let you know them you should know that Mr Tramiel has not said that these are his definite plans. He may change them a few more times until he feels that the plan is solid. However, as of now these are Mr Tramiel's plans for Atari.

NUMBER 1: Atari Corp. will discontinue the manufacturing off ALL video games systems which they make for the home including the 7800 Prosystem which Tramiel said he would keep, only a few weeks ago.

NUMBER 2: Atari Corp. will no longer produce AtariSoft software for its competitors. Tramiel realised that this was one of the things that had hurt Atari in the past.

NUMBER 3: Atari Corp. will discontinue all of their old home computers except one -the 800XL. Mr Tramiel said that he would sell out all of the old computers and peripherals made by the old Atari, but keep the 800XL as their low end computer in 1985. Besides the 800XL Tramiel will introduce mid and upper range computers at a low price -this way he would have a broad area of the computer market covered. Starting in '85, when Atari Corp. introduces their new computers, they'll introduce a changed 800XL which will be totally compatible with all of the old Atari software (hopefully this will mean more companies making software for the Atari like the good old days). We also know, as of now, that Tramiel will expand the memory of the 800XL to 128k for the same price or a small increase. As I see it Tramiel will either use bank-switching in the 6502 (which can only handle 64k) or he'll use the 65186 or 7510 chips. Either of these chips would be fully compatible with the old software and can handle 128k and be a lot more powerful at the same time. We don't have any solid information about Tramiel's new computers, just rumours -some of which I think are true but I won't spread any rumours and get your hopes up until those rumours are substantiated.

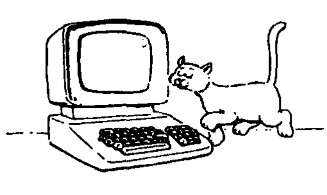
Other news that most of you probably already know is that back in March 1984, before Tramiel officially moved into Atari, he went to a computer company called Amiga with designs for some new state of the art chips that would supposedly revolutionize the home computer market. Tramiel gave Amiga a $US500,000 down payment to develop his new chips for Atari's new computers, which were supposed to be available for Christmas. You may be wondering why the new computers won't be out for Christmas -it's because Commodore found out what Tramiel was developing and went to Amiga on the quiet last June to make a deal. It turns out that Commodore actually bought Amiga in July along with the high level chips they were making for Tramiel and Atari.

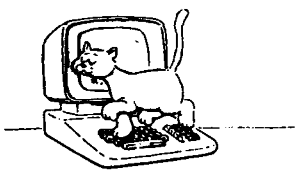
Once Commodore bought the rights to Atari's chips from Amiga, Amiga returned Atari's money, kept their chips to give to Commodore, and claimed that they never had a contract with Tramiel or Atari. This means that the new, revolutionary chips that Atari made are now under Commodore's name and can be placed in Commodore computers. But wait a minute, Tramiel didn't just sit there while Commodore Pearl Harboured him. He went to court and sued Amiga and Commodore for millions. The court battle is still going on with Amiga and Commodore against Atari, but while this is all going on Tramiel was able to get an injunction against Commodore -stopping them from using his chips as long as the court battle continues. When the court battle is over Commodore will get the injunction taken off so the chips can be used in their own computers -but only if they're proven to be Commodore's chips and not Atari's. In my opinion they are Atari's.

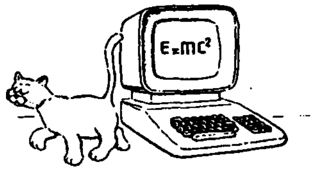
Apart from this news, all has been quiet lately. So quiet that it's eerie! There hasn't been much major news on Atari or Commodore for a while now, this might mean that there's something big going on -right? All I can say about this extreme, unusual silence in the home computer field is that I don't think there'll be a big Christmas war like in past years. I think that the war between Atari and Commodore will carry on into early to mid 1985.

As you may already know, Commodore committed harikari this month by introducing the 'Plus 4' -I'll bet that Tramiel is happy. That's all they have to offer this Christmas because they're waiting for Tramiel to jump into the war after Christmas and Pearl Harbour them.

That's all the news we have for this month. We hope to have more substantial news for you in the future. We're almost positively sure that by our next issue there'll be some more important news -until then, happy computing fellow Atarians!







1050 Disk Drive Modification

by Bill Fletcher. (Reprinted from Queensland A.C.E. Newsletter -October 1984)

This month's modification adds a write-protect bypass switch to the 1050 disk drive and will save you having to constantly remove and re-stick write-protect labels. A flashing LED (Light Emitting Diode) is recommended so that you'll be aware that your write-protected disk can be written to.

Undo the four screws in the drives casing and lift off the cover. Choose a suitable place to mount the switch and LED before starting work. The LED would naturally be on the front face of the drive but the switch may be mounted anywhere it will not foul the mechanism or touch any of the components.

Once you have decided this, find the strap (link) marked 'JP7' which is situated in the middle of the board, just behind 'U10' (one of the chips). Remove this link. The front connection of this link will be the supply point for the CENTRE pole of your switch. The other side is connected to one of the end terminals of the same pole of the switch.

Connect the poles of the switch as shown in the circuit diagram below, 5 volts can be found at 'TP13', located near the middle of the board, approximately a quarter of the way from the rear. The earth can be connected to 'TP15' located near 'TP13'.

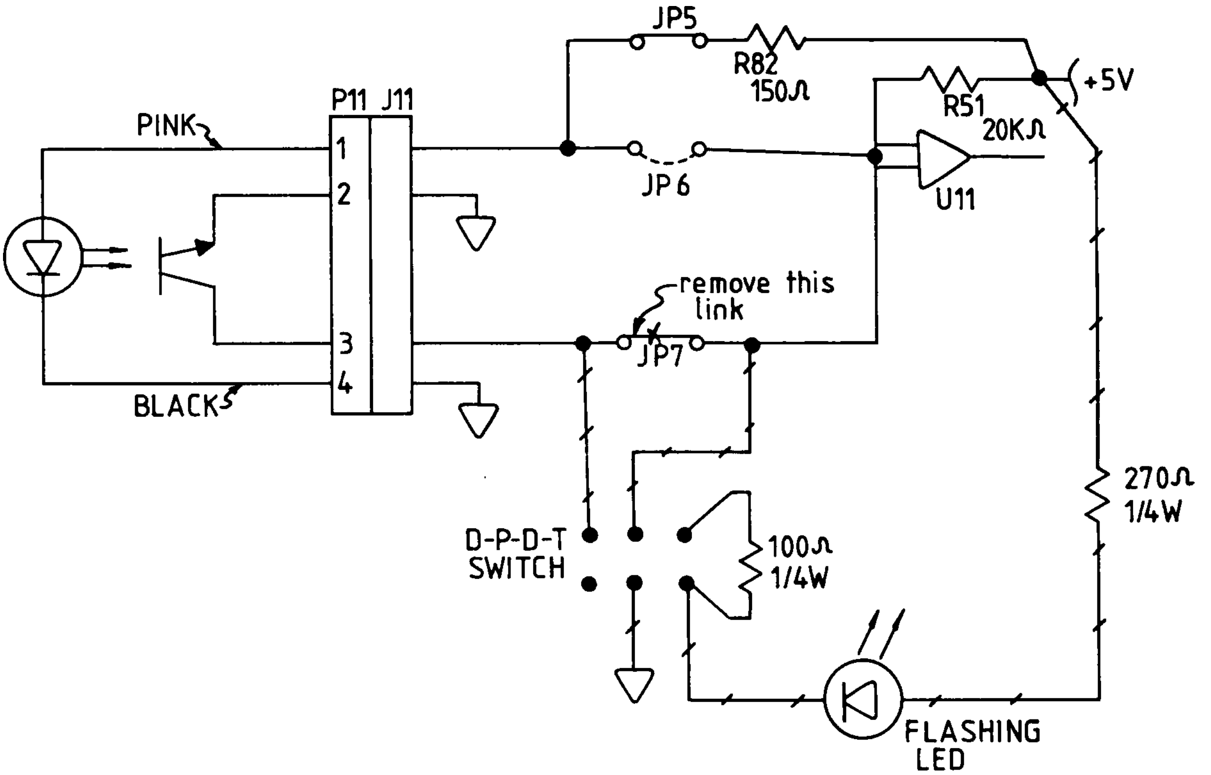
Ensure correct polarity of the LED -if you can't determine which way it should go, put it in and if it fails to light, reverse the polarity.

The 100 Ohm resistor is there as a safeguard -recommended but not essential. The more adventurous of you could get a 3 position, 3 pole switch wired as follows:-

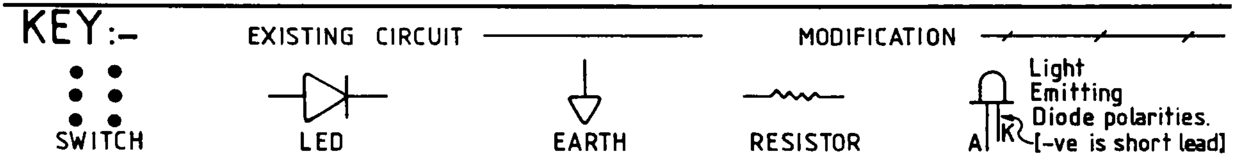
POSITION 1 -bypasses 'JP7' completely, making the system believe the disk is protected.

POSITION 2 -system normal (acts as 'JP7'.

POSITION 3 -as shown here.



DIAGRAM



ODDS AND SODS

QUESTION:- If you attempt to format a disk using DOS 2.05 and the disk is write protected the drive just stops and so does DOS. I have also tried this with DOS XL and DOS 3.. and the problem is there too. Also if you use XIO with 254, ditto!

I wrote a program to call SIO direct, setting it up as per Technical Reference Notes (fool me!), and the same thing happened. But if I changed DSTATS ($303) from $40 (read info) to 0 (no info exchange) bingo.. it works ok -formats the disk if not write protected, and error 144 straight away if write protected.

So.. back to DOS 2, I found that location $0D27 is LDA #$40, which is setting SIO to read. I changed it to LDA #$0, but nothing.. same as before. **HELP!** Ken Scalley

ATTENTION PRIMARY SCHOOL TEACHERS!

If you would like to make contact with another primary school teacher and swap information (or whatever) on the Atari 800XL, feel free to get in touch with Paul Sweeney.

Mount Pritchard East Primary School.
Townview Road, Mt Pritchard. N.S.W. 2170.
Phone (02)602-6453.

SCRIPTOR WORD PROCESSOR

Peter Tucker of Lismore writes:-

The word processor program "Scriptor" which was published in the April 1983 issue of Compute! will not RUN on XL machines. This is due to an illegal entry in the 'GCHAR' (Get CHARacter memory location) machine language routine.

The ROM routine which Scriptor accesses has been shifted in the XL machines and the coding had also been rewritten -the point of entry was at an 'X' register instruction whereas the XL machines use 'Y' register indexing for the same routine. After many hours of disassembly I found the problem. Thus, to make the "XL Fix", all that needs to be changed are two bytes in line 5320:-

change 254 to 35 then change 246 to 243

The address of the JSR was 246:254 (63230) on the 400/800 and is now 243:35 (62243) on the 600XL/800XL machines.

SPELLING CHECKER FOR ATARIWRITER

Before the Tramiel takeover APX was selling a program called ATSPELLER. Apparently this program could be called through AtariWriters main menu by pressing the letter 'A'. Word has it that ATSPELLER has been superseded by another program called PROOFREADER which has a 35,000 word dictionary. Again, I can only assume that the program is available through Atari Customer Relations.

There's also some other software from Atari which may be hard to track down. The "Atari 1020 Color Printer Screen Print Software", which a is a disk and documentation package that allows you to 'dump' any GRAPHICS 7, 7 1/2 or 8 screen to the 1020 printer -according to the September 1984 Antic magazine this software is included with all 1020 printers shipped since July 1984. And there's another one called "Using Atari Touch Tablet with BASIC".

LETTER PERFECT

In the last Inside Info I neglected to mention that Letter Perfect, Version 6, now comes on two disks. Letter Perfect now has a spelling checking option, and the extra disk is the same dictionary as the one provided with SPELL PERFECT. While this option allows you to check spelling with the dictionary provided, it doesn't allow you to create and update a dictionary containing any other words.

There's also a tip for anyone with Letter Perfect. If you POKE 4226 with 107 you'll be able to read the directory as if it was standard Atari DOS. To return to normal DOS directories POKE 4226 with 105 -this being the normal value with DOS 2.

NOTE:- This won't allow you to access the actual Letter Perfect files, only the directory!

On enquiring about LJK's File Utility Program disk, which allows you to convert from DOS 2 to LJK DOS (and vice versa) I was advised that it has not been updated to cater for DOS 3 and that they don't know if it ever will be!

USING AMPLUS3.UDL

When communicating via modem using the AMPLUS3.UDL software it is possible to send files direct from disk using the "supertransfer" option (OPTION Z). To do this you:-

1) must be communicating with another Atari.
2) set both machines to Atari (ATASCII) mode using OPTION T.
3) use the same baud rate.
4) set both Amplus programs to half duplex.
5) set both modems to full duplex.
6) the receiver must press START (in terminal mode) first. This will send a 'half cursor' (CONTROL U) character to the sender.
7) the sender, on seeing the 'half cursor' should now press START and the Amplus program will do the rest.

U.K. ATARI COMPUTER OWNERS CLUB

Chris Barlow, the President of the U.K. Atari Computer Owners Club has advised us that their membership is open to overseas Atari Enthusiasts. They have a current membership of more than 1500 (WOW!!!) from Europe, Africa, Middle East and the U.S.A. They also put out a very high quality, quarterly newsletter (currently issue #5) which you can receive for 5 Pounds Sterling (about $A7.50) per year, including packing and postage. Payment should be in Pounds Sterling made through a Bank Draft or International Money Order (from the Post Office).

Members will also be able to get programs from the Club's software library by sending their own disk or cassette along with a 'fee' and 50 pence to cover return postage. If you are interested contact them at:- U.K. ATARI COMPUTER OWNERS CLUB
P.O. Box 3, Rayleigh, ESSEX. U.K.

SUPERMON PRINTER INTERFACE

In Inside Info #15 (October 1984) I did a review on a Queensland product -SUPERMON. A lot of interest was shown by our members, especially concerning the Monitors ability to redirect the printer buffer through the Ataris joystick ports. Unfortunately, I didn't mention that the printer interface would NOT work with ALL commercially available programs. There may be no other alternative than to buy another printer interface from overseas. In the meantime, I understand that the price of the 850 Interface has been reduced by around $100 -making it around $250 here in Australia -if you can get it!

→

ATARI REPAIRS IN N.S.W.

At the present time there is a guy from Hong Kcng by the name of Lawrence Lem (pronounced limb) setting up a company called 'IRASON PTY LTD'. He used to work for Atari and can repair any ATARI products -but no third party products. If you need his services for repair work you can phone him at home on a temporary basis on (02)643-2742. At our December meeting Lawrence will demo a joystick port printer interface which works with ANY program.

A VISIT FROM ASHTON SCHOLASTIC

At our last meeting Ashton Scholastic advised that they were importing educational software for the Atari. They gave a demo of the Powerpad touchtablet (known as Chalk Board in the States) and announced a price reduction for it. This touchtablet rivals the Koala pad and is about four times the size. It used to be $169.95 without program but now is $129 with either Micro Maestro or Leo's Electric Paintbrush cartridges (normally $49.95). A quick check of Sydney stores revealed that you might have to press to get the new price -so don't be afraid to!! You can also buy replacement board overlays at $6 each.

Other items of Powerpad software are Powerpad Programming Kit (Disk) $39.95 - Logic Master, Bearjam $59.95 each cart. - Micro Illustrator $69.95 cart.

Other software is Square Pairs, Turtle Tracks $29.95 each - Microzine 1, Colorsaurus $39.95 each - Magic Spells $49.95 - Spelldiver, Bannercatch, Agent U.S.A. $52.95 each - Bumble Games, Moptown Parade, Hoptown Hotel %54.95 each.

For further information contact:- ASHTRON SOFTWARE. PO Box 579, Gosford. 2250. or Phone (043)28-3555.

TRAMIEL STRIKES AGAIN

Tremail recently visited Hong Kong for 2 days and cancelled contracts with 4 companies manufacturing Atari products -then he set up his own factory. Disk drives, interfaces and cartridges are made in Hong Kong. Currently Taiwan is the major Atari manufacturer but all of the development and design is still carried out by the team in the U.S.A.

Tremail's son has now taken over Atari's European market. A new business machine which apparently comes from Japan will be released by Atari late in 1985.

Rumour has it that "The Atari Connection" is being redesigned and should be out again in January 1985 and user group input is allowed. The User Group Support is also to be continued with a new program, better communications and improved benefits. [It is, after all, free advertising for Atari isn't it? -Ed.]

A NEW CHIP

A new chip, the 65816, has been developed which allows new computers to run older, existing software. This chip is a descendant of the 6502 and will also function as a powerful 16 bit microprocessor with vast amounts of memory at very high speed. The chip should be available in the States in a few months for $US50-100. It isn't known if it can be used as a direct replacement for the 6502 or if it is Atari compatible.

REVISION C BASIC

Atari's Customer service has been selling a Revision C upgrade for the BASIC cartridge. In the States you only need to send $US15 (per copy) along with your computers model number (400, 800 or 1200) and serial number. The information I received was written before the Tramiel takeover but I think this upgrade should still be available -I'll have to check to see if Futuretronics is doing anything about this since we Aussies may not be entitled to the claim through the service in the States.

Easy TAB Statement

by Arthur Banks. (Tyntynder South, Vic.)

[EDITOR'S NOTE:- Arthur sent this article to me way back in March. I'm sorry it's taken so long to print it! This is the last outstanding article I have -so get writing!]

Often when translating programs from the Apple you find statements such as:-

```
100 PRINT TAB(10); "XYZ"
```

There is no TAB statement in Atari BASIC, although it can be simulated by POKEing into several memory locations. Here is a method which does not use the POKE command but will simulate the AppleSoft line given above:-

```
10 DIM TAB$(10):TAB$="(10 SPACES)":REM This should be done during initialization
100 PRINT TAB$;"XYZ"
```

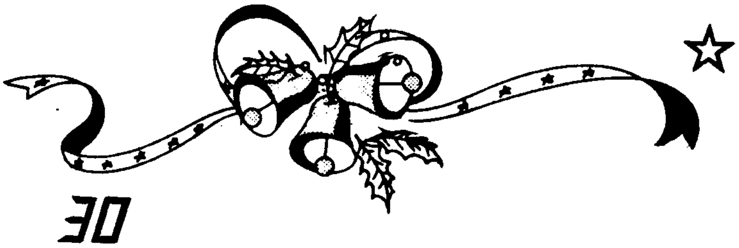
The method can be generalized as follows:-

```
10 DIM TAB$(40):TAB$="(40 SPACES)"
200 FOR L=1 TO 20
210 PRINT TAB$(1,L);"XYZ"
220 NEXT L
```

This gives a similar result to an Apple program along the following lines:-

```
200 FOR L=1 TO 20
210 PRINT TAB(L);"XYZ"
220 NEXT L
```

The above technique provides a close approximation of the Apple TAB statement and thus helps in making program translations. It also makes for easier and more readable programs than does the use of POKE commands.

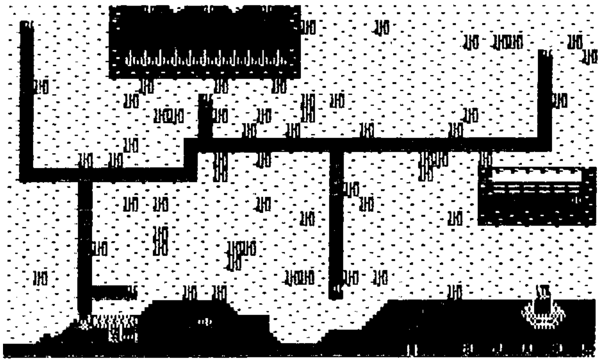


Diamond Mine

by Sydney Brown.

[Program reprinted from Eugene A.C.E. Newsletter, April 1984. Article by Garry Francis.]

I first saw this game in one of the arcades in George Street (Sydney) about two years ago. It wasn't a very well known game (in fact, I can't even remember its name), but one of the blokes from work was "addicted" to it. He insisted that I give it a go, but I kept getting killed within a few seconds. At 20c a go, I soon lost interest. However, now that Sydney Brown has translated it for the Atari, my interest has been rekindled. This is a really great adaptation of the original (whatever it was called) and is extremely well implemented. The graphics are great and it's fun to play. In fact, I think it's



How To Play:

The game begins as you land on the surface of an asteroid to try and find some diamonds to refuel your spacecraft. As it happens, the Snargs own a diamond mine here. If you can steal some of the diamonds from the mine, you can use them for fuel.

There are 9 diamonds to collect, but some are in hazardous positions. You'll see what I mean when you try to collect them! You don't have to collect all the diamonds (at least not in the early rounds), but get as many as you can because they're worth BIG points. You get 100 points for the easily accessible diamonds, 200 points for the diamonds in the chamber with the falling stalactites and 300 points for the diamond in the chamber with the drawbridge.

Use a joystick in Port 1 to move around. You can dig into the soil of the asteroid, but you cannot dig into rocks or concrete. If you move quick, you can dig under a rock before it falls on you, but two or more rocks stacked vertically will surely crush you. At the end of a round, you get 1 bonus point for each chunk of the asteroid that you dug through plus 2 bonus points for each rock that fell without crushing you.

Needless to say, the Snargs aren't going to let you steal all their diamonds without putting up a fight, so they've called out the troops. Your spacecraft is hidden behind a mountain, but a Snarg tank slowly blows it to bits. When the whole mountain is destroyed, the tank will have a clear shot at your spacecraft, so you must collect the diamonds and return to your craft before the Snarg tank can blow it up.

Just to make things more interesting, a second player can use a joystick in Port 2 to help the Snargs. He controls the mine guard (which is near the tank) and his job is merely to catch you. However, he cannot dig his own tunnels. He must rely on those already dug.

Good luck and be careful of those falling rocks.

ATASCII Number	ATASCII Character	Necessary Keystrokes
CHR$(0)	♥	CTRL ,
CHR$(1)	├	CTRL A
CHR$(29)	↓	ESC CTRL =
CHR$(30)	←	ESC CTRL +
CHR$(96)	♦	CTRL .
CHR$(133)	▜	INVERSE CTRL E
CHR$(145)	▛	INVERSE CTRL Q
CHR$(224)	▯	INVERSE CTRL .

```
0 REM ################################
1 REM #         DIAMOND MINE         #
2 REM #        by Sydney Brown       #
3 REM #        Reprinted from        #
4 REM #  Eugene A.C.E. Newsletter    #
5 REM #          April 1984          #
6 REM # Published by Atari Computer #
7 REM #    Enthusiasts (N.S.W.)      #
8 REM #        December 1984         #
9 REM ################################
100 J=32:Q=0:U=1:HS=Q:LEV=U:GOSUB 3200
0
190 SC=Q:L=U
195 H=3:V=4:EN=Q:DIG=Q:ROK=Q:CY=Q:E=Q:
UP=Q:AH=34:AV=2:COLOR 78:PLOT AH,AV:L=
U:CN=1:I=0:QT=27-LEV
200 ST=STICK(Q):IF ST=14 AND V>4 THEN
LOCATE H,V-U,ZZ:IF ZZ<78 THEN COLOR J:
PLOT H,V:V=V-U
201 IF ST=13 AND V<23 AND L<3 THEN LOC
ATE H,V+U,ZZ:IF ZZ<78 THEN COLOR J:PLO
T H,V:V=V+U
202 IF ST=11 AND H>Q THEN LOCATE H-U,V
,ZZ:IF ZZ<78 THEN COLOR J:PLOT H,V:H=H
-U
203 IF ST=7 AND H<38 THEN LOCATE H+U,V
,ZZ:IF ZZ<78 THEN COLOR J:PLOT H,V:H=H
+U
204 SS=STICK(U):IF PL=1 THEN 210
205 IF SS=14 AND AV>2 THEN LOCATE AH,A
V-U,K:IF K=J THEN COLOR J:PLOT AH,AV:A
V=AV-1:COLOR 78:PLOT AH,AV
206 IF SS=13 AND AV<23 THEN LOCATE AH,
AV+U,K:IF K=J THEN COLOR J:PLOT AH,AV:
AV=AV+1:COLOR 78:PLOT AH,AV
207 IF SS=11 AND AH>10 THEN LOCATE AH-
1,AV,K:IF K=J THEN COLOR J:PLOT AH,AV:
AH=AH-1:COLOR 78:PLOT AH,AV
208 IF SS=7 AND AH<38 THEN LOCATE AH+1
,AV,K:IF K=J THEN COLOR J:PLOT AH,AV:A
H=AH+1:COLOR 78:PLOT AH,AV
209 IF K=79 THEN 900
210 IF ZZ=80 THEN GOSUB 360
211 IF H=6 AND V=10 AND CY=Q THEN L=3
212 IF (H=21 OR H=31) AND V=21 AND CY=
Q THEN L=2:CY=Q:E=Q
213 COLOR 79:PLOT H,V:IF EN=U THEN GOS
UB 350
214 IF H=3 AND V=4 AND UP=U THEN 600
220 IF I=0 AND CN>QT THEN SOUND U,21,8
,15:I=1:P=SCR+110:FOR W=15 TO 0 STEP -
1:SOUND U,21,8,W:NEXT W:SOUND U,Q,8,8
225 CN=CN+1:IF I=0 THEN 280
230 IF I=1 THEN POKE P,0:P=P-1:F=PEEK(
P):POKE P,43:IF F<34 THEN 250
235 SOUND U,77,8,15:POKE P,PEEK(P-40):
POKE P-40,PEEK(P-80):POKE P-80,0
240 FOR W=15 TO 0 STEP -2:SOUND U,77,8
,W:NEXT W:CN=1:I=0:P=SCR+110:SOUND U,Q
,Q,Q
```

➵

```
250 IF P<SCR+86 THEN POKE P,0:GOTO 800
280 ON L GOTO 290,400,500
290 IF (ZZ=76 OR ZZ=77) AND ST<>15 THE
N GOSUB 300
295 LOCATE H,V-U,ZZ:IF ZZ=82 THEN GOSU
B 310
299 ZZ=255:GOTO 200
300 FOR W=Q TO 15 STEP 2:SOUND Q,35,8,
W:NEXT W:SOUND Q,Q,Q,Q:DIG=DIG+U:RETUR
N
310 EN=U:RH=H:RV=V-U:LOCATE RH,RV-U,XX
:IF XX=82 THEN COLOR J:PLOT RH,RV-U:CO
LOR 82:PLOT RH,RV+U:GOTO 900
319 POKE 77,Q:ROK=ROK+U:RETURN
320 FOR W=30 TO Q STEP -U:SOUND Q,77,6
,W/2:NEXT W:SOUND Q,Q,Q,Q:RETURN
350 LOCATE RH,RV+U,XX:COLOR J:PLOT RH,
RV:RV=RV+U:COLOR 82:PLOT RH,RV:IF XX=7
9 THEN 900
355 IF RV<23 THEN LOCATE RH,RV+U,XX:IF
 XX=J OR XX=79 THEN 350
359 EN=Q:GOTO 320
360 COLOR J:PLOT H,V:LOCATE H-U,V,Z1:I
F Z1=80 THEN H=H-U:GOTO 365
362 LOCATE H+U,V,Z1:IF Z1=80 THEN H=H+
U:GOTO 365
363 LOCATE H,V-U,Z1:IF Z1=80 THEN V=V-
U:GOTO 365
364 V=V+U
365 COLOR 79:PLOT H,V:FOR WW=U TO L:FO
R W=30 TO Q STEP -U:SOUND Q,7,10,W/2:N
EXT W:SC=SC+100:POSITION 6,Q:? SC:NEXT
 WW
366 IF L=3 THEN UP=1
369 RETURN
400 CY=CY+1:IF CY>4 THEN CY=2:R=INT(RN
D(Q)*11)+21:LOCATE R,20,ZZ:E=Q:IF ZZ=8
1 THEN E=U
405 IF CY=2 AND E=U THEN FOR W=14 TO 0
 STEP -2:SOUND Q,7,10,W:NEXT W
410 IF E=U THEN SP=CY+19:COLOR J:PLOT
R,SP-U:LOCATE R,SP,ZZ:COLOR 81:PLOT R,
SP
416 IF CY=4 AND E=U THEN GOSUB 300
450 IF ZZ=79 THEN 900
460 IF (H<21 OR H>31) AND CY=4 THEN L=
U:CY=Q:E=Q
499 ZZ=255:GOTO 299
500 IF CY=Q THEN COLOR 204:PLOT 7,V:R=
INT(RND(Q)*6)+U:COLOR J:PLOT R,9:CY=U
505 IF V=8 THEN COLOR 204:PLOT R,9:L=U
:COLOR 61:FOR W=U TO 6:PLOT W,11:NEXT
W:COLOR J:PLOT 7,10:CY=Q:GOTO 299
510 CY=CY+U:IF CY>10 AND CY<17 THEN CO
LOR J:PLOT 17-CY,11
515 IF 17-CY<H AND V=10 THEN 550
549 GOTO 299
550 COLOR J:PLOT H,V:COLOR 79:PLOT H,V
+U:FOR W=U TO 35:NEXT W:COLOR J:PLOT H
,V+U:GOTO 900
600 COLOR 32:PLOT 3,4:COLOR 79:PLOT 3,
3
605 SOUND U,Q,Q,Q:FOR W=250 TO 30 STEP
 -10:FOR WW=W TO W-25 STEP -1:SOUND Q,
WW,10,10:NEXT WW:NEXT W
610 POSITION 2,1:? SH$;:POSITION 2,3:?
 "  ";:FOR W=30 TO 5 STEP -1:SOUND Q,
W,10,10:NEXT W
620 POSITION 2,1:? SH$(10,12):POSITION
 2,2:? "  ";:FOR W=30 TO 5 STEP -1:SOUND Q,W,10,10:NEXT W
630 POSITION 2,1:? "  ";:FOR WW=15 TO
 0 STEP -1:FOR W=30 TO 5 STEP -1:SOUND
 Q,W,10,WW:NEXT W:NEXT WW
650 GOSUB 950
699 LEV=LEV+1:GOTO 949
800 FOR W=1 TO 35:POSITION 2,2:? SH$;:
SOUND U,PEEK(53770),8,15:POSITION 2,2:
? "  ";:POSITION 2,3:? "  ";:NEXT W
810 FOR W=15 TO 0 STEP -0.5:SOUND U,PE
EK(53770),8,W:NEXT W:GOTO 900
899 GOTO 899
900 SOUND U,Q,Q,Q:GOSUB 320:GOSUB 320:
GOSUB 950:K=0
910 POSITION 12,Q:? "G H F       F I J
"
940 IF PEEK(53279)<>6 THEN POKE 709,IN
T(RND(Q)*15)*16+10:GOTO 940
948 SC=Q:LEV=U
949 POSITION 0,2:? "        ":? "
 ";:GOSUB 32100:GOTO 195
950 POSITION 22,Q:? "LM ";DIG;"   ":FO
R W=U TO DIG:FOR WW=15 TO Q STEP -2:SO
UND Q,7,10,WW:NEXT WW:SC=SC+U:POSITION
 6,Q
955 ? SC:NEXT W:POSITION 22,Q:? " R ";
ROK;"    ":FOR W=U TO 77:NEXT W
960 IF ROK>Q THEN FOR W=U TO ROK:FOR W
W=15 TO Q STEP -U:SOUND Q,21,10,WW:NEX
T WW:SC=SC+2:POSITION 6,Q:? SC:NEXT W
965 POSITION 22,Q:? "         ";:SOUND Q
,Q,Q,Q:RETURN
32000 DIM PR$(50),SH$(13):CB=PEEK(106)
-4:POKE 106,CB:PR$(U,41)="hh.0h.Whh.T)
♥.L)♦.M"H♥1L.NHPyfHfOhdTPp♦♥"
32010 GRAPHICS Q:Z=CB*256:A=USR(ADR(PR
$),Z,4):FOR W=Z+128 TO Z+207:READ D:PO
KE W,D:NEXT W:SH$="VWX ↓←←←←Y0Z "
32015 FOR W=Z+272 TO Z+511:READ D:POKE
 W,D:POKE W,D:NEXT W:POKE 752,U:FOR W=
1536 TO 1551:READ D:POKE W,D:NEXT W
32020 POKE 756,CB:DL=PEEK(560)+256*PEE
K(561):POKE DL+3,69:FOR W=6 TO 28:POKE
 W+DL,4:NEXT W:POKE DL+8,132
32100 POKE 708,54:POSITION Q,Q:? "BCDE
F 0            U                 5";
:POKE Z-11,4:POKE 710,24:POKE 709,14
32110 POKE 712,128:POSITION 18,U:? "SL
MT          ^_   USML";:POKE 512,0:POKE
 513,6:POKE 54286,192
32120 POSITION 15,2:? "SLMLMLMT
 [\] SLMLM";:POSITION 14,3:? "SLMLMLML
MLT      SLMLMLMLML";:POSITION 6,Q:? SC
;
32130 FOR W=4 TO 22:POSITION Q,W:? "LM
LMLMLMLMLMLMLMLMLMLMLMLMLMLMLMLMLMLMLM
";:NEXT W:COLOR 76:FOR W=Q TO 38
32140 PLOT W,23:NEXT W:POKE Z-U,44:SCR
=PEEK(DL+4)+256*PEEK(DL+5)
32150 COLOR 204:PLOT 20,23:DRAWTO 20,1
9:DRAWTO J,19:DRAWTO J,23:COLOR J:FOR
X=21 TO 31:FOR Y=20 TO 23:PLOT X,Y
32160 NEXT Y:NEXT X:PLOT 20,21:PLOT J,
21:POSITION 21,20:? "QQQQQQQQQQ";:POS
ITION 21,23:? " P U P U P ";
32170 POSITION Q,9:? "LMLMLMLM";:POSIT
ION Q,10:? "L          ";:POSITION Q,11:?
 "L======K";:POSITION Q,12:? "LUUUUUUK
"
32180 GOSUB 32400:NR=49+7*LEV:GOSUB 32500
32300 FOR W=11 TO 2 STEP -U:POSITION W
,U:? SH$:FOR WW=U TO 21:SOUND Q,31+WW,
10,6:NEXT WW:NEXT W:POSITION 2,U:? "
  "
32310 POSITION 2,2:? SH$;:FOR WW=U TO
21:SOUND Q,31+WW,10,6:NEXT WW:FOR W=40
 TO 160 STEP 10:FOR WW=U TO 21
32320 SOUND Q,W+WW,10,6:NEXT WW:NEXT W
:SOUND Q,Q,Q,Q:COLOR J:FOR W=U TO 21:N
EXT W:PLOT 3,3:POSITION 3,4:? "0";
32399 RETURN
32400 COLOR J:PLOT 3,20:DRAWTO 3,14:DR
AWTO 27,14:DRAWTO 27,12:DRAWTO 38,12:D
RAWTO 38,22:PLOT 17,4:DRAWTO 17,14
32410 DRAWTO 26,14:DRAWTO 26,17:PLOT 3
1,4:DRAWTO 34,4:DRAWTO 34,12:PLOT 34,3
32420 COLOR 80:PLOT 3,20:PLOT 17,4:PLO
T 31,4:PLOT 26,17:PLOT 38,22:PLOT U,10
:RETURN
32500 COLOR 82:FOR W=U TO NR
32510 X=INT(RND(Q)*39):Y=INT(RND(Q)*19
)+4:LOCATE X,Y,ZZ:IF ZZ<>75 AND ZZ<>77
 THEN 32510
32515 IF X<9 AND Y<12 THEN 32510
32520 PLOT X,Y:NEXT W:RETURN
32699 RETURN
32700 DATA 32,136,136,136,136,136,136,
32,32,160,32,32,32,32,32,168
32701 DATA 32,136,8,8,32,32,128,168,32
,136,8,32,8,8,136,32
32702 DATA 136,136,136,136,168,8,8,8,1
68,128,128,160,8,8,136,32
32703 DATA 32,136,128,160,136,136,136,
32,168,8,8,32,32,128,128,128
32704 DATA 32,136,136,32,136,136,136,3
2,32,136,136,136,40,8,136,32
32710 DATA 40,130,128,40,2,2,130,40,0,
0,8,34,32,32,34,8
32711 DATA 0,0,8,34,34,34,34,8,0,0,8,3
4,34,32,32,32
32712 DATA 0,0,8,34,42,32,34,8,168,32,
32,32,32,32,32,32
32713 DATA 128,128,160,136,136,136,136
,136,0,0,32,136,136,136,136,136
32714 DATA 8,8,40,136,136,136,136,40,0
,0,32,170,170,32,0,0
32720 DATA 255,255,255,207,255,255,255
,243,255,63,255,255,255,243,255,255
32721 DATA 40,150,40,20,85,65,65,65,20
,105,20,20,150,150,130,130
32722 DATA 0,0,0,0,32,168,168,32,170,1
70,42,42,8,8,8,8
32723 DATA 16,84,84,85,69,85,21,20,3,3
,15,15,63,63,255,243
32724 DATA 192,192,48,240,252,252,243,
255,0,0,0,0,12,60,207,255
32730 DATA 2,2,9,10,38,37,170,170,170,
170,255,40,40,255,170,170
32731 DATA 128,128,96,160,152,88,170,1
70,85,107,27,27,5,5,1,1
32732 DATA 85,105,108,108,80,80,64,64,
0,10,42,166,149,166,42,10
32733 DATA 130,170,170,102,85,102,170,
170,0,168,170,102,86,102,170,168
32734 DATA 0,0,128,170,170,128,0,0,0,4
0,150,130,150,130,170,136
32740 DATA 72,173,10,210,9,12,141,23,2
08,169,0,141,26,208,104,64
```

☆

BASIC XL
technical data

DESCRIPTION:

BASIC XL is a compatible extension to Atari BASIC that adds dozens of new commands and functions.

REQUIRES:

BASIC XL requires no previous programming experience and will work with any Atari Home Computer with at least 16K of memory.

OPERATING SYSTEM REQUIREMENTS:

BASIC XL will work with any DOS that supports the Atari Home Computer. Or use cassette alone.

SUMMARY OF NEW FEATURES:

- Player/Missile Graphics
- String Handling
- Input/Output
- Program Control
- Program Development
- Special System Options

PRODUCT MEDIUM:

BASIC XL comes to you in the specially designed, memory-saving OSS SuperCartridge.

PACKAGING:

BASIC XL comes complete with over 300 pages of documentation, which includes both a tutorial and reference manual, in a handy sized binder.

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Player/Missile Graphics Support:

- Commands include, PMCOLOR, PMMOVE, PMGRAPHICS, PMWIDTH, and MISSILE
- Ability to efficiently MOVE a large player vertically with a single command
- Detect collisions with the specially designed BUMP command

String Handling Capabilities:

- Support of String Arrays
- String functions include: LEFT$, RIGHT$, and MID$
- Use the FIND command to locate characters within a string

Comprehensive Input/Output:

- Handles DOS commands like DIR, PROTECT, ERASE, and RENAME right from BASIC XL
- Uses the RGET and RPUT commands to do record I/O
- Supports a PRINT USING command for sophisticated output formatting
- Manipulates data blocks from a device or file with the BPUT or BGET commands
- Utilizes the TAB function to make column printing easier

Additional Features:

- Better program control with statements like IF..ELSE...ENDIF, and WHILE..ENDWHILE
- Move bytes around at assembly language speed with BASIC XL's MOVE command

Special Program Development Commands:

- Use the NUM command to enable BASIC XL's automatic line numbering
- Run lengthy programs 2 to 4 times faster with BASIC XL's specially designed FAST mode
- Make debugging easier with the TRACE/TRACEOFF commands
- Get a cross-reference all program variables in use with the LVAR command.

Special System Options:

- Get the status of your system with the SYS command
- Catch run-time errors and lines using the ERR function
- Look and change two bytes instead of one with DPEEK and DPOKE
- Get the hexadecimal equivalent of decimal numbers with HEX$ function

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